

final environmental statement  
wild and scenic river study  
september 1979

GUNNISON RIVER

COLORADO



#### SPECIAL NOTE

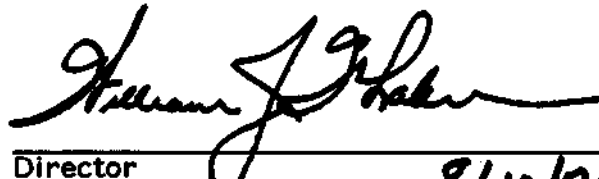
This environmental statement was initiated by the Bureau of Outdoor Recreation (BOR) and the Colorado Department of Natural Resources in January, 1976. On January 30, 1978, a reorganization within the U.S. Department of the Interior resulted in BOR being restructured and renamed the Heritage Conservation and Recreation Service (HCRS). On March 27, 1978, study responsibility was transferred from HCRS to the National Park Service. The draft environmental statement was prepared by HCRS and cleared by the U.S. Department of the Interior prior to March 27, 1978. Final revisions and publication of both the draft environmental statement, as well as this document have been the responsibility of the National Park Service.

799/79652

FINAL ENVIRONMENTAL STATEMENT  
GUNNISON WILD AND SCENIC RIVER STUDY

Prepared by

United States Department of the Interior / National Park Service  
in cooperation with the Colorado Department of Natural Resources  
represented by the Water Conservation Board staff



Director  
National Park Service

8/10/79

## S U M M A R Y

( ) Draft

(X) Final

Environmental Statement

Department of the Interior,  
National Park Service

1. Type of action: ( ) Administrative (X) Legislative

2. Brief description of action:

The Gunnison Wild and Scenic River Study recommends inclusion of a 26-mile (41.8-km) segment of the Gunnison River, Colorado, and 12,900 acres (5,200 ha) of adjacent land to be classified as wild in the National Wild and Scenic Rivers System under the administration of the National Park Service and the Bureau of Land Management, U.S.D.I. This river segment extends from the upstream boundary of the Black Canyon of the Gunnison National Monument to approximately 1 mile (1.6 km) below the confluence with the Smith Fork.

3. Summary of environmental impact and adverse environmental effects:

Inclusion of 26 miles (41.8 km) of the Gunnison River and 12,900 acres (5,200 ha) comprising its immediate environment in the national system will have an overall effect of preserving the existing outstanding scenic, geologic, recreation, wildlife, and water quality values of the river, in addition to preserving other associated historic and cultural values within this area. Adjacent land uses would remain relatively unchanged. Proposed water resource development projects within the area will be prohibited. Minor soil, vegetation, and wildlife disturbance will occur as a result of the proposal.

4. Alternatives considered:

In addition to the proposed action, other alternatives considered were (1) no action, and (2) classification options.

5. Comments were requested from the following:  
(See next page.)

6. Date statement made available to EPA and the public:

Draft: March 16, 1979      Final:

5. Comments were requested from the following: (Cont.)

Advisory Council on Historic Preservation  
Water Resources Council  
Department of Agriculture  
    Soil Conservation Service  
    U.S. Forest Service  
Department of the Army, Corps of Engineers  
Department of Energy  
Environmental Protection Agency  
Department of Health, Education and Welfare  
Department of Transportation  
Department of the Interior  
    Bureau of Land Management  
    Fish and Wildlife Service  
    Bureau of Indian Affairs  
    Geological Survey  
    Bureau of Reclamation  
    Bureau of Mines  
    Heritage Conservation and Recreation Service

In addition, review and comment on the statement were coordinated for all concerned State agencies through the Colorado Division of Planning (Colorado Clearinghouse). Areawide Clearinghouses that assisted with the review process included:

San Luis Valley Council of Governments  
District 10 Regional Planning Commission  
Colorado West Council of Governments

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## 1. DESCRIPTION OF THE PROPOSAL

### THE PROPOSAL

The U.S. Department of the Interior and the Colorado Department of Natural Resources jointly recommend that approximately 26 miles (41.8 km) of the Gunnison River study corridor be included in the National Wild and Scenic Rivers System as a "wild" river. The eligible segment contains about 12,900 acres (5,200 ha) and extends from the upstream (southern) boundary of Black Canyon of the Gunnison National Monument, hereafter referred to as the monument, to about 1 mile (1.6 km) below the confluence with the Smith Fork. Below the monument, the eligible segment is located in the Gunnison Gorge Recreation Lands and is hereafter referred to as the gorge. The remaining 2.7-mile (4.3-km) segment below the Smith Fork contained no outstandingly remarkable values and is not eligible for inclusion.

### BACKGROUND

The National Wild and Scenic Rivers Act of 1968 created a system of wild, scenic, and recreational rivers; designated the initial components of the system; set forth certain river study procedures; and, in section 5(a) of the act, listed additional rivers to be studied for potential addition to the system. The act was amended by Public Law 93-621 in January 1975, adding the Gunnison River in Colorado to section 5(a) and imposing a completion deadline of October 2, 1979, for the study report. As shown in figure 1-1, the portion of river designated for study included the segment from the upstream (southern) boundary of the monument to its confluence with the North Fork, a distance of approximately 29 miles (46.7 km).

### ACQUISITION AND DEVELOPMENT

Since all the land in the visual corridor proposed for designation is Federally owned, no additional lands would need to be acquired. In addition, no developments beyond those proposed in existing management plans would be required by the river designation. Therefore, the proposal has neither acquisition nor development costs associated with it.

To maintain recreation use at a level consistent with the carrying capacity of the resources, only existing trails within and immediately outside the visual corridor will be allowed. In keeping with the recommended plan, this approach provides for public safety and ensures that the area's pristine qualities will be maintained.

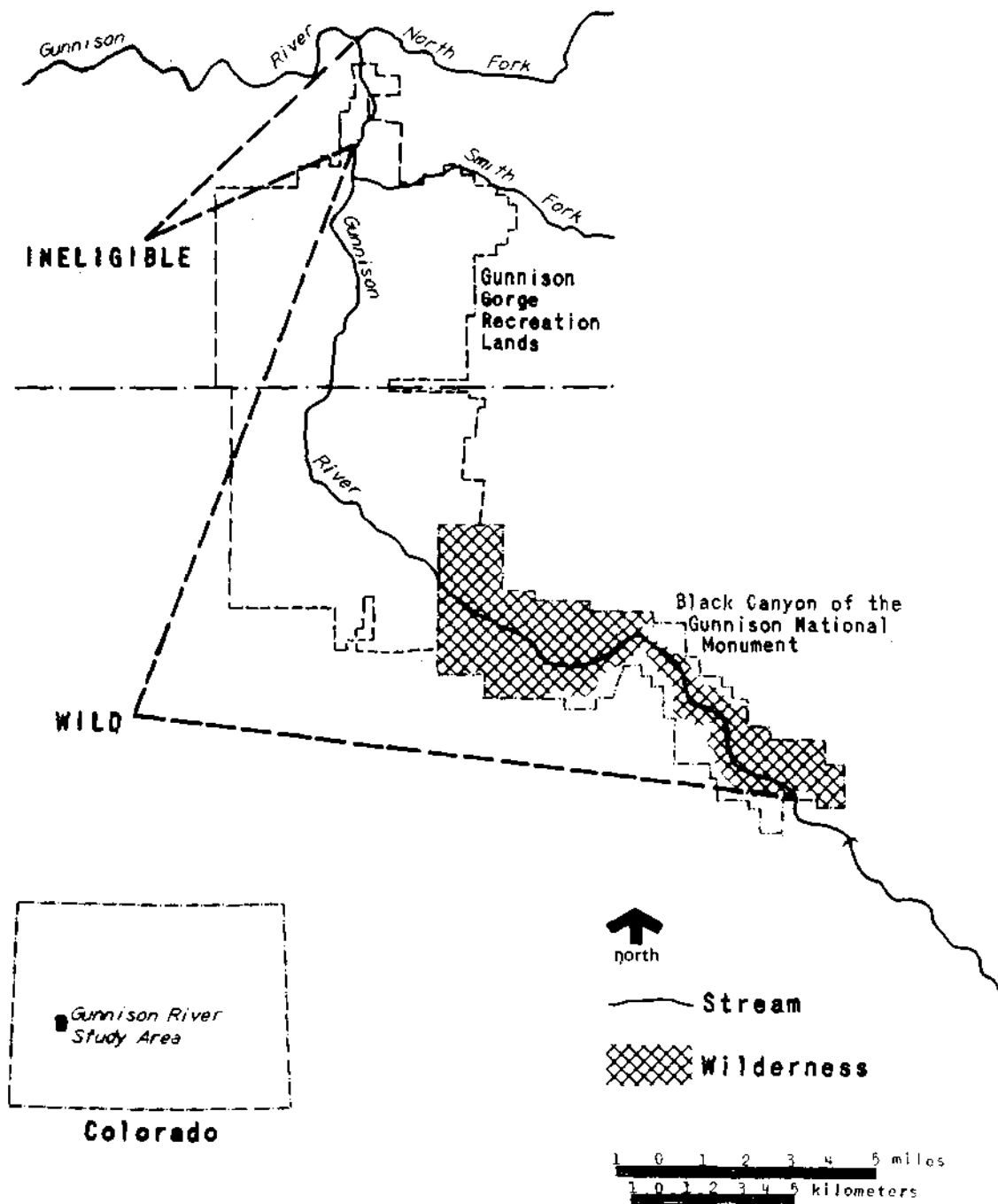


Figure 1-1  
**PROPOSED GUNNISON  
 RIVER DESIGNATION**  
 GUNNISON WILD AND SCENIC RIVER

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Although scenic and public use easements will be required outside the river corridor to provide access to trailheads, these developments will also take place under existing management plans whether or not the river is designated a component of the National Wild and Scenic Rivers System. (See "Interrelationship With Other Programs," page I-7.)

## ADMINISTRATION AND MANAGEMENT

The entire 26-mile (42-km) eligible segment of the Gunnison River will be managed in accord with the criteria for classification established in section 2(b) of the Wild and Scenic Rivers Act of 1968 (82 Stat. 907), as amended. Objectives embodied in these criteria are intended to:

- Preserve the river and its immediate environment, including the outstanding natural values it possesses.

- Preserve the free-flowing condition of the waters.

- Maintain the existing excellent water and air quality.

- Provide high quality recreational opportunities associated with a free-flowing river for present and future generations.

- Provide recreational use of fish and wildlife resources, including hunting and fishing, without impairing the habitat of threatened and endangered species, according to appropriate Federal and State laws.

- Provide for a level of utilization of land and water resources which will leave the existing environment unimpaired for the use and enjoyment of present and future generations.

- Provide a variety of opportunities for interpretive, scientific, educational, and wildlife oriented uses.

- Assure preservation of historic and archeological values.

- Provide for and emphasize public safety in all activities and recreational uses of the river and adjacent areas.

The National Park Service and the Bureau of Land Management will continue to administer their lands within the proposed river management zone. Adjacent lands administered by these agencies will also be managed to protect the natural values of the visual corridor.

As required in the Wild and Scenic Rivers Act, a detailed management plan will be developed for the area following river designation.

This management plan will have as its objective the protection and enhancement of the river's outstanding scenic, recreational, geologic, and wildlife values.

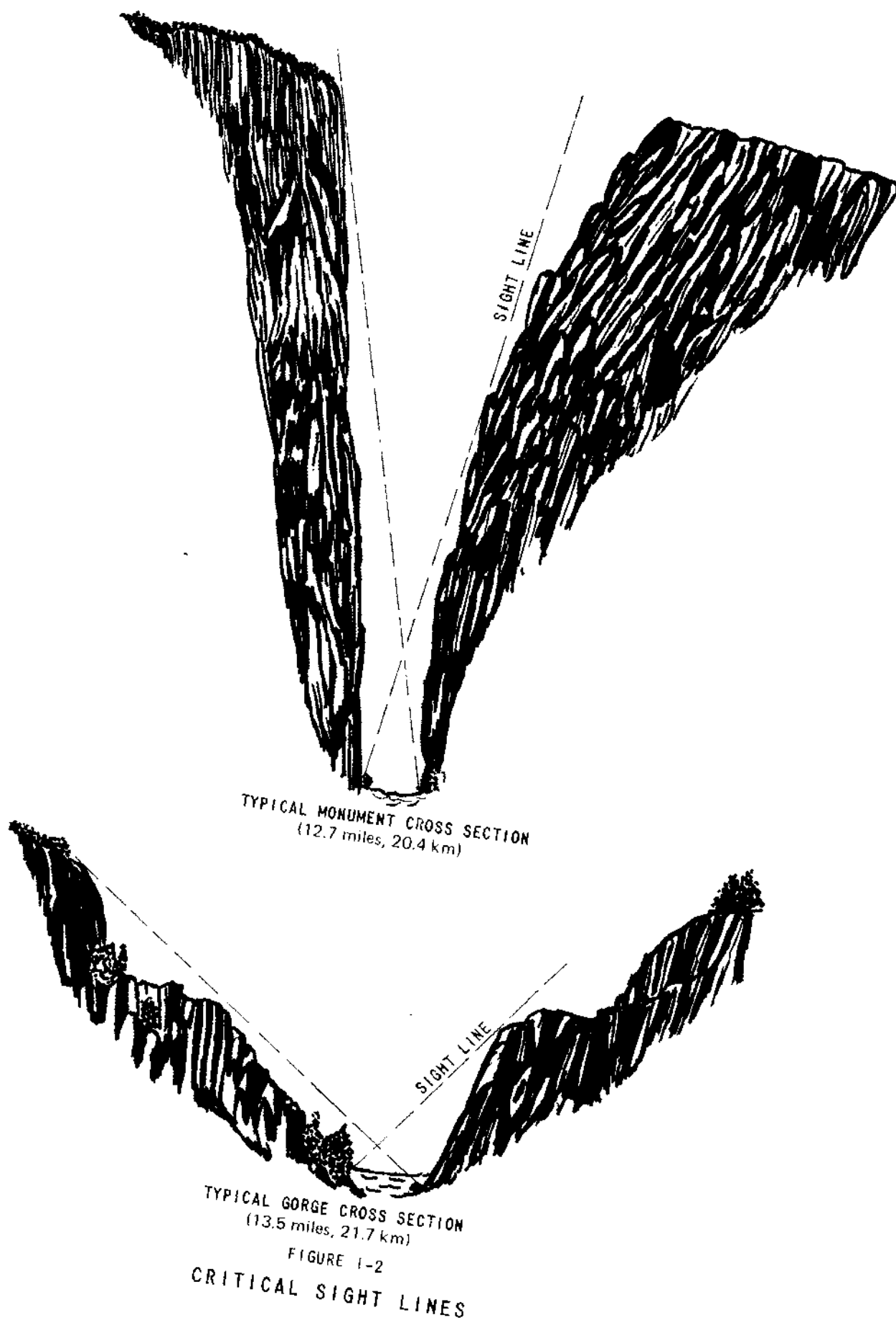
Since the river segment recommended for designation is deeply entrenched in a relatively narrow canyon, boundaries of the proposed wild river area coincide with the proposed management zone. This zone represents the visual corridor when viewed from the river, as shown in figure 1-2. In the monument, this corridor extends to the main canyon rims. Within the gorge, where the river flows through a double-rim canyon, the visual corridor is limited to the inner canyon rim. This corridor within the monument and gorge averages about 3/4 mile (1.2 km) in width and consists entirely of Federally owned land, as follows:

<u>Agency</u>	<u>Acres (hectares)</u>	<u>Linear Miles (kilometers)</u>	
National Park Service	7,540 (3,051)	12.7	(20.4)
Bureau of Land Management	<u>5,392 (2,182)</u>	<u>13.5</u>	<u>(21.7)</u>
TOTALS	12,932 (5,233)	26.2	(42.1)

Since all of the river management zone within the monument segment of the corridor is part of a designated wilderness area, established pursuant to the Wilderness Act of September 3, 1964 (78 Stat. 890; 16 U.S.C., ch. 23), the river in this segment is subject to the provisions of both the Wilderness Act and the Wild and Scenic Rivers Act. (Figure 1-1 illustrates the study corridor in relation to the Black Canyon of the Gunnison National Monument wilderness area.) In the case of conflict between the provisions of these acts, the more restrictive provisions apply.

As provided in section 13(a) of the Wild and Scenic Rivers Act, "Hunting and fishing shall be permitted on lands and waters administered as parts of the system under applicable State and Federal laws and regulations. . . ." Hunting would, however, be prohibited within the monument. The Secretary of the Interior may also ". . . designate zones where, and establish periods when no hunting is permitted for reasons of public safety, administration, or public use and enjoyment. . . ." The Secretary will issue appropriate regulations after consultation with the Colorado Division of Wildlife.

Subject to valid existing rights, the minerals on Federal lands which are part of the National Wild and Scenic Rivers System and constitute the bed or bank of the river will be withdrawn from all forms of appropriation under the mining laws, as specified in



section 9(a) of the act. Prospecting and issuance of leases, licenses, and permits, however, may be conducted within the eligible river segment under the mineral leasing laws, subject to such conditions as the Secretary of the Interior may prescribe, as provided in section 9(b) of the act.

#### INTERRELATION WITH OTHER PROGRAMS

There are a number of projects, plans, authorities, and studies in Colorado related to the Gunnison Wild and Scenic River Study. These range from public laws and land orders to existing plans and ongoing studies.

#### Wild and Scenic Rivers Act

There are presently no rivers in Colorado that are included in the National Wild and Scenic Rivers System, but several streams in Colorado besides the Gunnison River have been identified for study in section 5(a) of the Wild and Scenic Rivers Act. Among these are portions of the Big Thompson, Cache la Poudre, Colorado, Dolores, Elk, Green, Conejos, Los Pinos, Piedra, and Yampa Rivers (see figure 1-3). Except for the Dolores River, whose study was completed in 1976 (FES 76-56), evaluations of these rivers are in progress at this time.

#### Endangered Species Act

Provisions of the Wild and Scenic Rivers Act concerning the preservation of outstanding values are in conformity with the Endangered Species Act (16 U.S.C. 1531-1543, 87 Stat. 884) which went into effect on December 28, 1973. The Endangered Species Act made it a violation of Federal law to take any species listed as endangered, except under permit or in order to enhance the propagation or survival of the species, and established a new "threatened" classification. Several species covered by the act and listed in the Federal Register of June 14, 1976, inhabit the proposed wild river area. Provisions of the Endangered Species Act are in accord with the Wild and Scenic Rivers Act.

#### Executive Order 11593

As provided in section 2(b) of Executive Order 11593 (May 13, 1971), cultural resources within the proposed river corridor are being protected in consultation with the Colorado State Historic Preservation Officer and the Advisory Council on Historic Preservation. This requirement is in keeping with the Wild and



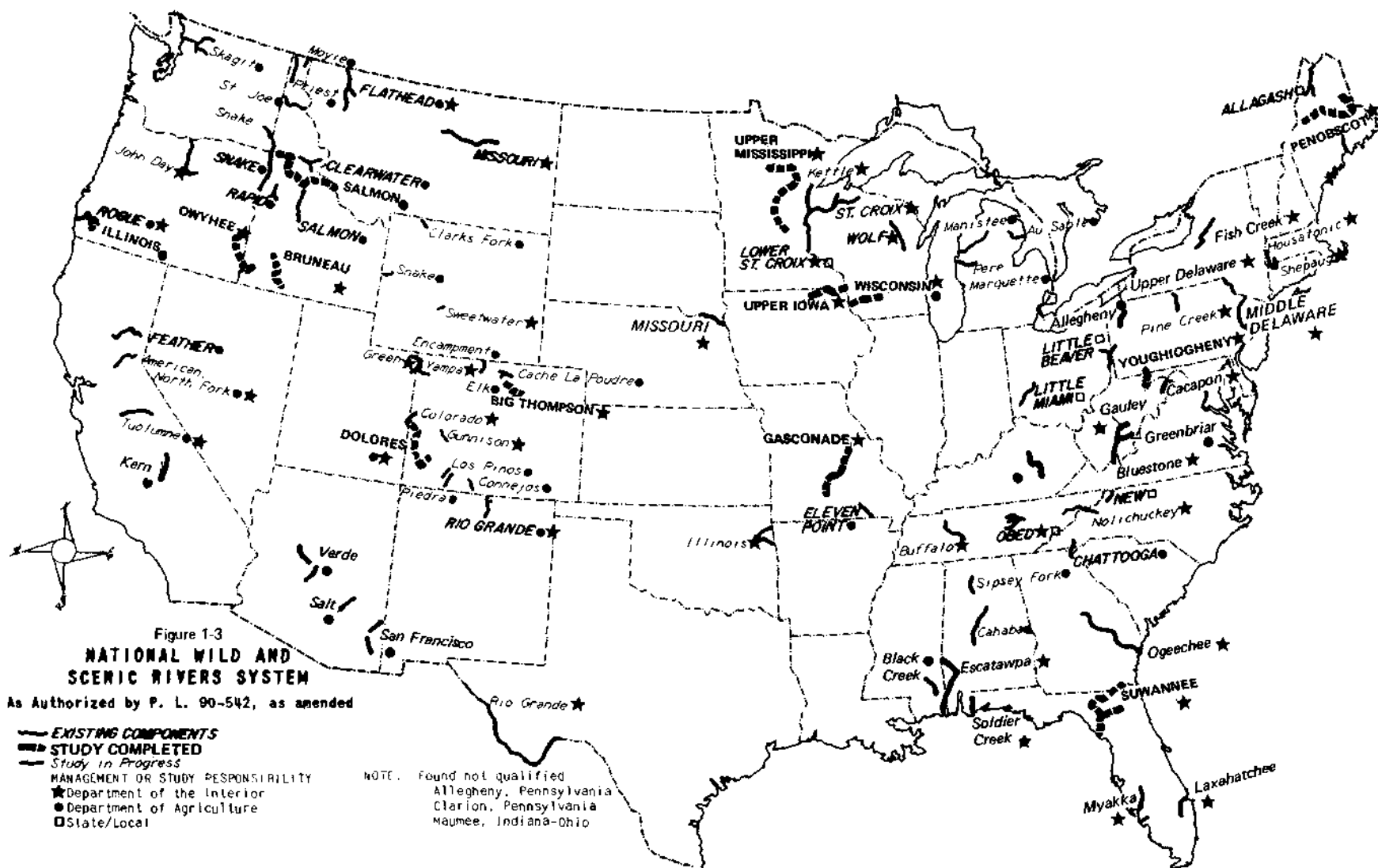


Figure 1-3  
NATIONAL WILD AND  
SCENIC RIVERS SYSTEM

As Authorized by P. L. 90-542, as amended

- EXISTING COMPONENTS
- - - STUDY COMPLETED
- ... Study in Progress

MANAGEMENT OR STUDY RESPONSIBILITY  
 ★ Department of the Interior  
 ● Department of Agriculture  
 □ State/Local

NOTE: Found not qualified  
 Allegheny, Pennsylvania  
 Clarion, Pennsylvania  
 Maumee, Indiana-Ohio

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Scenic Rivers Act which states that ". . . primary emphasis shall be given to protecting (component's) . . . historic, archeologic, and scientific features."

#### Public Law 94-567

A wilderness area containing 11,180 acres (4,524 ha) was established within Black Canyon of the Gunnison National Monument on October 20, 1976 (FES 73-56 and supplement FES 76-37), including a portion of the river covered by this proposal. Designation of the Gunnison River would be compatible with the wilderness area in the monument.

#### Presidential Proclamation No. 2033

The Black Canyon of the Gunnison National Monument, through which a portion of the proposed wild river segment flows, was established as a part of the National Park System by President Herbert Hoover on March 2, 1933, under authority provided in the Antiquities Act of June 8, 1906. The boundaries of the area were enlarged by Presidential Proclamation 2286 and 2372 of May 16, 1938, and October 28, 1969, respectively. The three proclamations specifically direct that no unauthorized person shall "appropriate, injure, destroy, or remove any feature of this monument."

Public Law 85-391 of May 1, 1958, authorized certain land exchanges for the monument. Presidential Proclamation No. 3344 of April 13, 1960, excluded certain lands from within the monument's authorized boundary. No conflict would exist between authorities under which the monument was established and river designation under the Wild and Scenic Rivers Act.

#### Public Land Order No. 5261

All lands proposed for designation outside the National Monument are within the Gunnison Gorge Recreation Lands administered by the Bureau of Land Management. Approximately 30,080 acres (12,173 ha) comprise this withdrawal area designated by Public Land Order No. 5621 on October 1, 1972.

The Gunnison Gorge Recreation Lands established by the order were withdrawn from all forms of appropriation under the public land laws (30 U.S.C. chapter 2), but not from leasing under the mineral leasing laws. The intent of this order is in accord with the proposal for river designation.

### Federal Land Policy and Management Act of 1976 (P.L. 94-579)

This act authorized the Bureau of Land Management to give priority to the designation and protection of areas of critical environmental concern. The proposal resulting from the Gunnison Wild and Scenic Rivers study recognizes the outstandingly remarkable values of the river corridor through the Gunnison Gorge Recreation Lands and the potential for loss of these values through the construction of proposed water resource development projects in the area. Thus, proposed river designation is compatible with requirements of the Federal Land Policy and Management Act.

### National Park Service Master Plan

A master plan setting forth objectives for management and development of the Black Canyon of the Gunnison National Monument was published in 1974. In keeping with the Presidential Proclamation that established the monument, this plan recognizes the geologic, scenic, scientific, and educational values inherent in the area and provides guidance for their proper use and enjoyment. The proposed river designation is compatible with the monument's management plan.

### Bureau of Land Management Framework Plan

Prior to establishment of the Gunnison Gorge Recreation Lands by Secretarial Order, a management framework plan was completed for the Gunnison Gorge Planning Unit on January 1, 1969. Efforts to develop a master plan for the withdrawn lands in the gorge were initiated in November 1972. This master plan, which will be finalized within one year after the Gunnison River has been designated, provides for (1) historic/archeologic site stabilization and restoration, (2) development of camp and picnic sites at the confluence of the North Fork (Pleasant Forks area), and (3) construction of similar facilities at each of the trailheads in the gorge. In addition, scenic and public use easements, including those required to ensure access to the Chukar Canyon Trail, will be negotiated. The objectives of this proposal are in conformance with the recommendations of the draft framework plan.

### Statewide Comprehensive Outdoor Recreation Plan

The proposal to preserve a segment of the Gunnison River is consistent with the goals of the preliminary Colorado Statewide Comprehensive Outdoor Recreation Plan (1976). In 1969, the Colorado Department of Natural Resources established an ad hoc committee to consider criteria for a State Wild and Scenic Rivers

System. As a result, criteria were established for identifying rivers as "wild," "scenic," and "recreational," which closely parallel Federal definitions for comparable rivers; however, legislative action will be required before a State Wild and Scenic Rivers System is established in Colorado.

#### Nationwide Outdoor Recreation Plan

The proposed action is in accord with the first nationwide outdoor recreation plan which was completed in 1973. The report on that effort, Outdoor Recreation--A Legacy for America, recommends the inclusion of additional rivers into the National Wild and Scenic Rivers System.

#### Four Corners Regional Planning Commission

Among the goals and objectives set forth by the Four Corners Regional Planning Commission in the Colorado Preliminary State Development Plan of May 1969 is the recommendation for strong legislation and/or firm implementation of legislation to protect Colorado's water resources from misuse and contamination. This type of protection will be provided by the proposal.

#### Colorado Land Use Commission

In its report, A Land Use Program for Colorado, April 1974, the Colorado Land Use Commission provided an outline for environmental programs within the State, suggesting the creation of linear parks along the rivers and streams or other environmental corridors in order to preserve shorelines and other environmental qualities. Environmental concerns are recognized by the commission as being critical and worthy of special attention in Planning Region 10, in which the Gunnison River is located (see figure 1-4). Objectives of the Land Use Program and the Wild and Scenic Rivers Act are compatible.

#### Gunnison River Basin Study

A cooperative study of the water and related land resources in the Gunnison River Basin in Colorado was completed by the Colorado Water Conservation Board and the U.S. Department of Agriculture in November 1962. While this study does not specifically identify the potential for national designation of the Gunnison River, it does recognize the need to provide public recreation opportunities.

### Colorado River Storage Act of 1956

Public Law 84-485 states that "It is the intention of Congress that no dam or reservoir constructed under the authorization of this Act shall be within any national park or monument." This law, not Presidential Proclamation No. 2033 or wilderness designation, is the statutory basis prohibiting water resource development projects authorized by the Colorado River Storage Act from encroaching on lands within Black Canyon of the Gunnison National Monument.

### Water Resource Projects

The existing Curecanti Project of the Bureau of Reclamation, which is located immediately upstream from the proposed river designation, is discussed in chapter II under "Water Resources." Other water resource development projects proposed for development in the study corridor are also discussed in chapter II. These include proposals by the Colorado-Ute Electric Association, Pittsburg and Midway Coal Mining Company, and the City of Delta, Colorado.

### Clean Air Act of 1977

Public Law 95-95, as amended, designated the Black Canyon of the Gunnison National Monument as a Class I area concerning air quality. Under this classification the monument is considered to have "pristine air," and no deterioration of air quality is allowed. According to the act, visibility is one aspect of this classification; therefore, no activities are allowed which would detract from the monument's scenic vistas. Since use expected to occur due to river designation is not expected to reduce air quality to any significant degree, the proposal is fully in accord with this act.

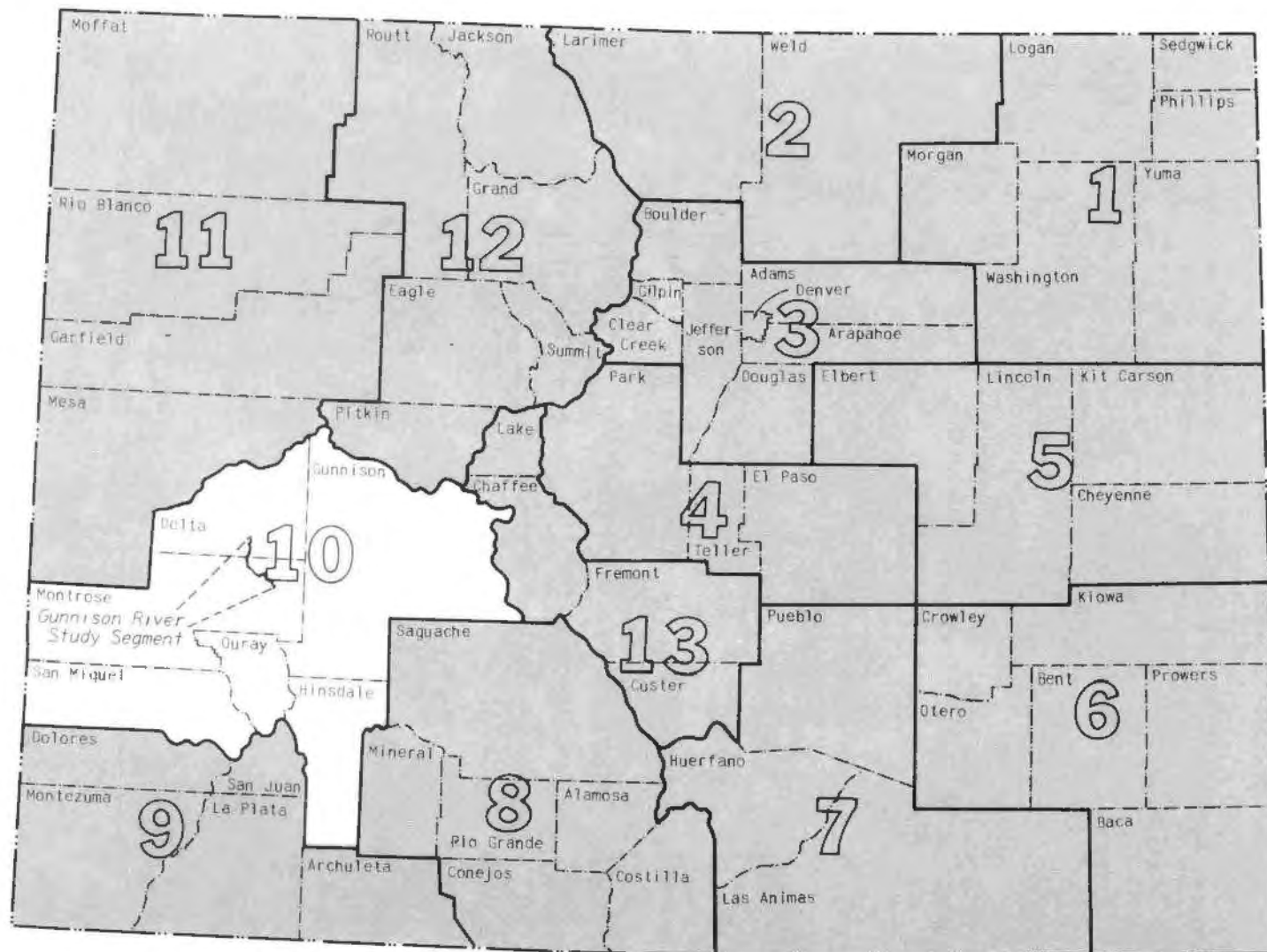


FIGURE 1-4  
**COLORADO PLANNING REGIONS**  
 GUNNISON WILD AND SCENIC RIVER

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## II. DESCRIPTION OF THE ENVIRONMENT

The Gunnison River rises among the high peaks of the Sawatch Range and flows generally west for about 250 miles (402 km), joining the Colorado River near the City of Grand Junction. The Gunnison and its tributaries drain parts of the Sawatch, West Elk, and San Juan Ranges, as well as the Uncompahgre Plateau, totaling some 3,000 miles (4,828 km) of river channel. The natural environment is extremely diverse within the Gunnison basin.

### REGIONAL SETTING

The region described in the following text corresponds to the Gunnison River Basin located in southcentral Colorado (see figure 2-1). The basin encompasses about 8,020 square miles (20,772 km<sup>2</sup>), or approximately 8 percent of the State, and is slightly larger than the State of Massachusetts (7,826 square miles or 20,269 km<sup>2</sup>). At its greatest dimensions, the region is some 145 miles (233 km) across from east to west and 95 miles (153 km) wide from north to south.

#### Physiography and Geology

The region ranges in elevation from approximately 4,550 feet (1,387 m) at Grand Junction to about 14,300 feet (4,359 m) at Uncompahgre Peak in northwest Hinsdale County. Mountain ranges in the eastern part of the region are composed mostly of Precambrian metamorphic and igneous rocks that have been uplifted, except for the West Elk and Elk Mountains.

The West Elks are composed of thick volcanic piles and several uplifted structures that were formed by Tertiary igneous intrusions. The Elk Mountains are composed mostly of folded and faulted sedimentary rocks. In the western part of the region, several thousand-feet-thick beds of sedimentary rocks, chiefly of the Paleozoic and Mesozoic ages, rest on the Precambrian basement. In the southern part of the region, the San Juan Mountains consist chiefly of volcanic rocks. The basin's geology is illustrated in figure 2-2.

#### Mineral Resources

The eastern mountains rimming the region, particularly in the southeast, lie partly in the Colorado mineral belt (see figure 2-3). Large amounts of precious and base metals, as well as significant amounts of uranium, tungsten, manganese, molybdenum, iron, and titanium, have been produced in the Gunnison River Basin.



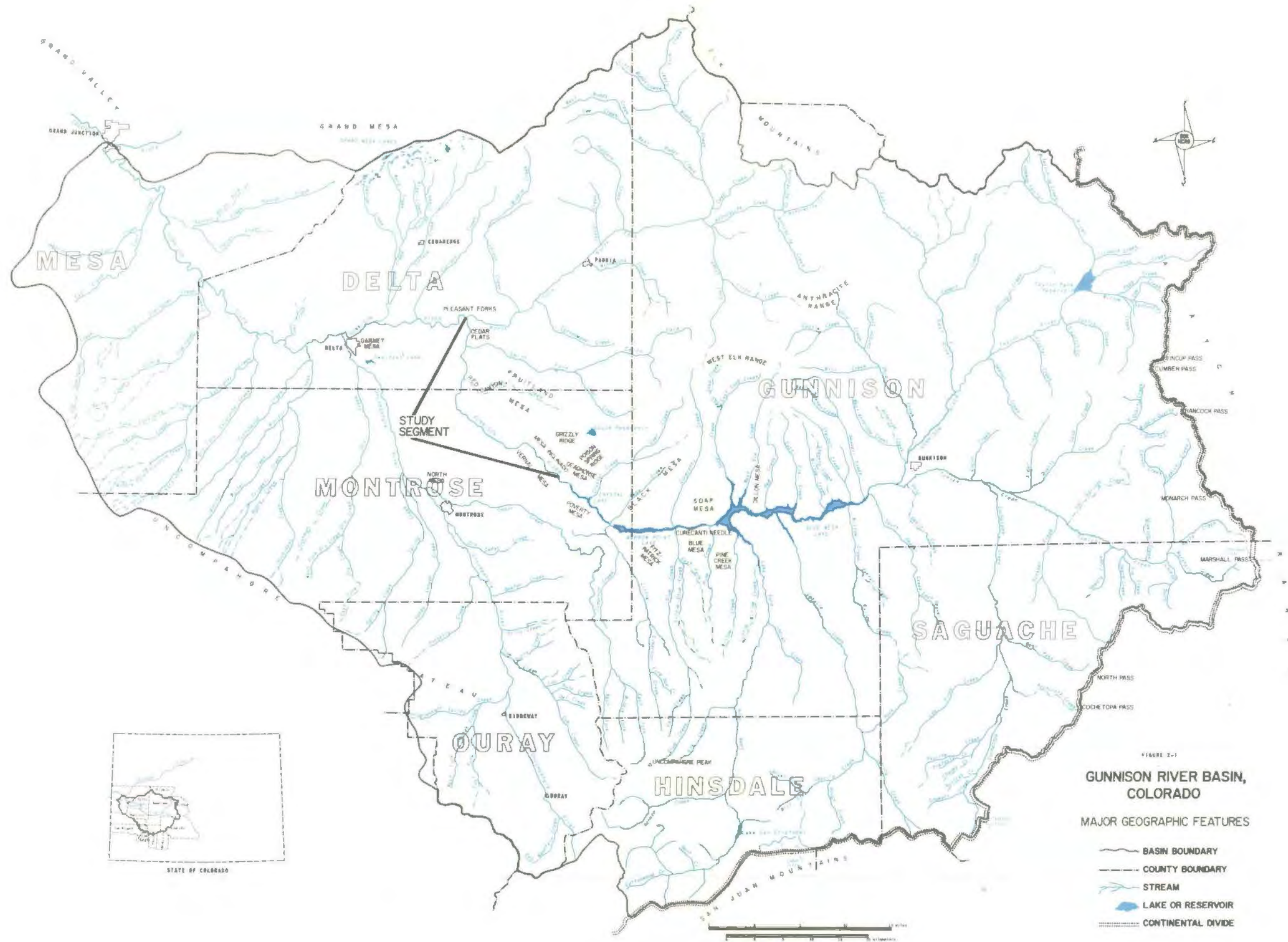


FIGURE 2-1  
GUNNISON RIVER BASIN,  
COLORADO

MAJOR GEOGRAPHIC FEATURES

- BASIN BOUNDARY
- - - COUNTY BOUNDARY
- STREAM
- LAKE OR RESERVOIR
- CONTINENTAL DIVIDE

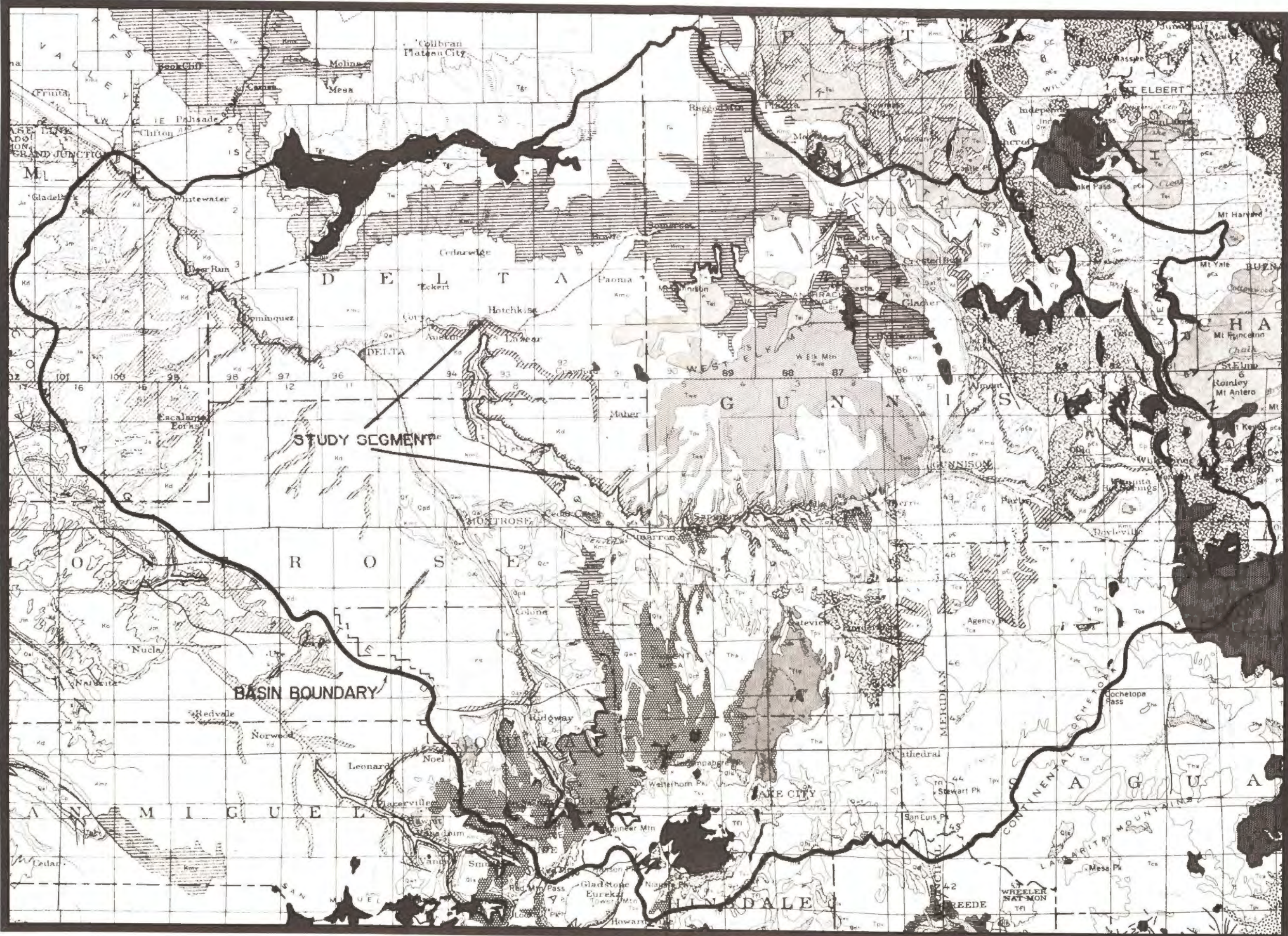
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FIGURE 2-2

GUNNISON RIVER BASIN, COLORADO  
SEDIMENTARY, IGNEOUS, AND METAMORPHIC ROCKS



SEDIMENTARY ROCKS

- |                                      |  |
|--------------------------------------|--|
| Alluvium                             | Landslides and mud flows                 |
| Landslides and talus                 | Wisconsin till                           |
| Wisconsin glacial outwash            | Post-Durango deposits                    |
| Moraines                             | Durango till                             |
| Durango glacial outwash              | Florida gravel                           |
| Cerro till                           | Telluride conglomerate                   |
| Green River formation                | Wasatch formation                        |
| Ohio Creek conglomerate              | Mesaverde group of Colorado River Valley |
| Mancos shale                         | Cretaceous undivided                     |
| Dakota sandstone                     | Morrison formation                       |
| Older Jurassic undivided             | Triassic undivided                       |
| Cutler and Rico formations undivided | Pennsylvanian undivided                  |
| Permian and Pennsylvanian undivided  | Mississippian and Devonian undivided     |
| Ordovician and Cambrian undivided    |  |

SEDIMENTARY, IGNEOUS, AND METAMORPHIC ROCKS

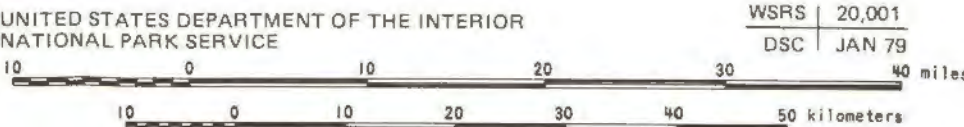
- |   |                           |
|---|---------------------------|
| Undivided metamorphic and igneous rocks | Granite and related rocks |
| Slate, quartzite, and conglomerate      | Schist and gneiss         |

EXTRUSIVE IGNEOUS ROCKS

- |                              |  |
|------------------------------|--|
| Andesite-basalt and rhyolite | Andesite and basalt  |
| Fisher latite-andesite       | Piedra rhyolite (youngest), Huerto andesite, Alboroto quartz latite, Sheep Mountain andesite, and Treasure Mountain quartz latite (oldest) |
| Volcanic rocks undivided     | Conejos andesite   |
| Sunshine Peak rhyolite       | San Juan tuff  |
| West Elk breccia             | Lake Fork andesite   |

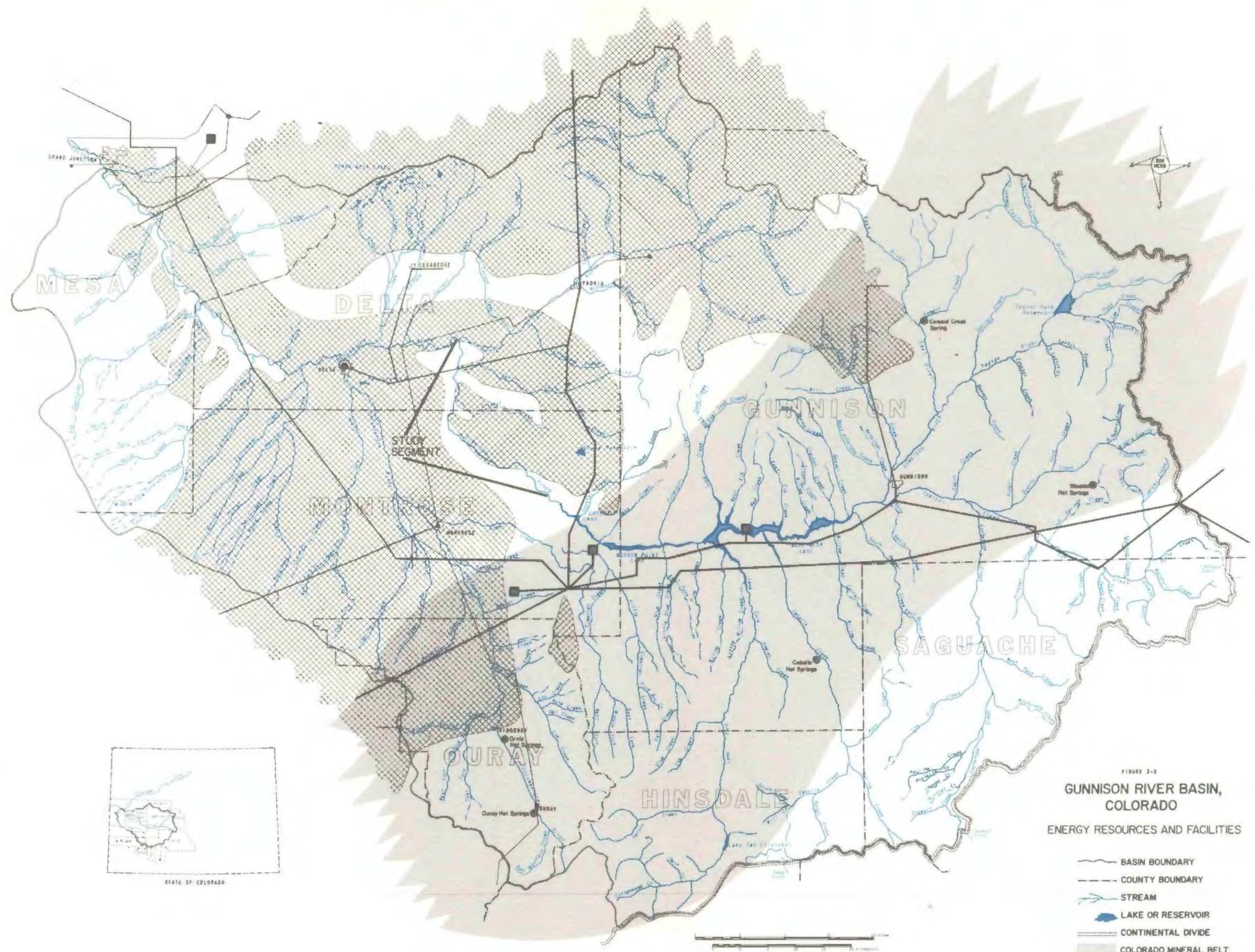
INTRUSIVE IGNEOUS ROCKS

- |                                |  |
|--------------------------------|--|
| Late Tertiary intrusive rocks  | Intrusives of pre-Fisher latite-andesite age |
| Early Tertiary intrusive rocks |  |



Source: U. S. Department of the Interior, Geological Survey







Records of the Grand Junction Office of the Energy Research and Development Administration (ERDA) show that as of January 1, 1977, 10 properties within the region have produced 414,500 tons (376,032 metric tons) of uranium ore having an average grade of 0.27 percent  $U_3O_8$ . Considered to be high-grade, the ore contained 2,266,400 pounds (1,028 metric tons) of uranium oxide. Nearly all of the ore was processed at a Gunnison, Colorado, mill which operated from February 1958 to April 1962 with a capacity of 200 tons (181 metric tons) of ore per day.

### Energy Resources

Coal, oil, and gas are the primary fossil fuels found in the region. In addition, there are a number of both thermal and hydropower electric generation facilities. Although there are some geothermal resources in the region, they have limited values for recreation, space heating, and other minor uses. As mentioned in the "Mineral Resources" section, uranium is another important energy source found in the region.

Fossil Fuels. Most of the fossil fuel resources are concentrated in the western half of the region. The Uinta coal region, which overlaps the lower part of the study area, contains the largest deposits of any of Colorado's eight coal regions.<sup>1</sup> Coal fields of this region occur on moderately-to-steeply-dipping flanks of the Piceance Basin, a southeastward extension of Utah's Uinta Basin.

Much of the region is not favorable for oil and gas occurrence due to a lack of potential source rocks. Broad areas are underlain by igneous rock, or by Precambrian rocks at or near the surface. The remaining sedimentary areas of the region have not yet been fully explored. Only Delta, Mesa, and Montrose Counties are known to have oil or gas resources. There were 34 producing wells in Mesa County and none in either Delta or Montrose Counties at the close of 1976. Total accumulative production to date for Mesa County is 16,646 barrels of oil and 61.4 million cubic feet (1.74 million cubic meters) of natural gas.

Electric Power Sources. Facilities for producing electric power in the region are depicted in figure 2-3. Except for a few small

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1. Hornbaker, A.L. and Holt, Richard D. "1972 Summary of Coal Resources in Colorado," Special Publication No. 3, Colorado Geological Survey, Department of Natural Resources, 1973, p. 14.

plants built by electric utilities as single-purpose power projects, hydroelectric power resources in the region have been developed mainly by the Bureau of Reclamation as part of the Curecanti Project. In 1977, the installed capacity of the project's two existing reservoirs (Blue Mesa and Morrow Point) totaled 180 megawatts (MW). The installed capacity of the two remaining developed hydro-power facilities in the region (Ouray and Redlands) is about 2 MW. The Ouray plant was struck by lightning in 1974 and has been out of operation since then. The Crystal project, located immediately upstream from the study area, has an installed capacity of 28 MW and was completed in 1978.

There are four thermal-electric power facilities in the region. Two of these plants, Oliver and Jim Bullock, are steam-electric and owned by the Colorado-Ute Electric Association, Inc. While they have a combined capacity of 13 MW, only the Jim Bullock plant (10 MW) is presently in operation. The Delta plant is an internal combustion facility of about 5 MW installed capacity owned by the Delta Municipal Light and Power Company. The only existing industrial power facility in the region is a steam-electric generation plant of 2.5 MW capacity at Delta which is owned by the Holly Sugar Corporation.

It is estimated that total electrical generation from all sources was about 716,400 megawatt hours (MWH) in 1975. Loads partially served by these facilities are located primarily in Arizona, Colorado, and Utah.

### Climate

Average annual precipitation varies from more than 40 inches (102 cm) at the higher elevations to less than 10 inches (25 cm) in the lower valleys. Annual precipitation at Montrose and Gunnison averages about 9.5 and 11.2 inches (24.2 and 28.5 cm), respectively.

Temperatures also vary considerably. The record official low temperature in Colorado occurred within the region on February 1, 1951, at Taylor Park Dam north of Gunnison when it dropped to -60°F (-51°C). Summer temperatures in the lower basin occasionally exceed 100°F (38°C). Average annual temperatures at Montrose and Gunnison are 49.1°F and 37.7°F (9.5°C and 3.2°C), respectively.

### Soils

Fifteen general soil map units occur in the region (see table 2-1). These units represent areas containing more than one kind of soil

TABLE 2-1

Gunnison River Region<sup>1</sup>

## SOILS

Soil Map Unit	Occurrence	Elevation feet (meters)	Where Formed	Precipitation inches (centimeters)
Typic Cryoboralf - rock outcrop	Mountainous areas. Timbered and mountain slopes, high plateaus, mesas, sparsely vegetated escarpments, and rock outcrops - over a broad area in the region.	7,500 - 11,500 (2,286 - 3,505)	In materials weathered from a variety of crystalline and sedimentary rocks.	20 - 40 (51 - 102) Mostly snow
Typic Cryoboralf - loamy	Mountainous areas. (Northeast corner of region.) Mountain slopes, glacial moraines, till plains, and alluvial fans.	9,000 - 11,500 (2,743 - 3,505)	In materials weathered in place or locally transported from a variety of crystalline and sedimentary rocks.	15 - 25 (38 - 63)
Typic Haplargid - loamy	Irrigated croplands. (Major portion of this unit.) Majority in private ownership. Confined mainly to narrow bands north and west of the river study area. Occupies mesas, high terraces, and alluvial fans.	5,000 - 6,000 (1,524 - 1,829)	- -	10 - (25)
Ustollic Haplargid - loamy - rock outcrop	Mesas, high benches, and mountain slopes; narrow canyons through the lower portion of the river study corridor and to the west.	5,000 - 8,000 (1,524 - 2,438)	In materials weathered residually or locally transported from sedimentary rocks, predominantly sandstone.	10 - 15 (25 - 38)
Typic Calcicrothid, Skeletal-Ustic Torriorthent - loamy	Northwest corner of the region. Mesas, benches, ridges, hillcrests, and high fans and terraces.	5,000 - 6,000 (1,524 - 1,829)	In materials weathered residually from shale and sandstone and in calcareous, cobbly alluvium from weathered basalt and sandstone.	8 (20)
Typic Torrifluvent - silty	Nearly level flood plains, alluvial fans, and narrow alluvial valleys such as occur only in a very limited area just east of the river study corridor.	4,800 - 6,500 (1,463 - 1,981)	In silt alluvium from alkaline shales.	10 (25)
Typic Torriorthent - clayey	Immediately to the west of the river study corridor. Hills, ridges, and shale breaks.	4,500 - 7,500 (1,372 - 2,282)	In materials weathered in place from saline shale.	10 (24)
Lithic Ustic Torriorthent - loamy - rock outcrop	Vicinity of river study corridor. Low hills, upland breaks, and colluvial slopes.	3,500 - 7,500 (1,067 - 2,286)	In materials weathered in place from sandstone and shale.	10 - 15 (25 - 38)
Pergelic Cryumbrept, Pergelic Cryochrept - skeletal - rock outcrop	Mainly along the eastern and southern periphery of the region. Comprised of alpine areas, most of which straddle the Continental Divide from north to south. Soils in this unit occupy slopes in alpine meadows where there are massive mountain peaks, rock outcrops, and rock slides.	11,000 - 14,500 (3,353 - 4,420)	In material weathered in place or locally transported largely from crystalline rocks.	30 - 50 (76 - 120)
Aridic Argiboroll - clayey; Aridic Haploboroll - clayey	Mostly on mountain slopes, mesas, and benches.	6,000 - 9,000 (1,829 - 2,743)	In material weathered in place from shale and sandstone.	15 - 25 (38 - 63)
Typic Cryoboroll - loamy - rock outcrop	Scattered throughout the extreme eastern and southern parts of the region. They occupy subalpine mountain slopes, mesas, and upland benches, and old high terraces and fans.	8,000 - 10,500 (2,438 - 3,200)	In a wide variety of materials consisting of glacial till and outwash, weathered sandstone, shale, disintegrated granite, and stony and cobbly coarse-textured alluvium.	15 - 20 (38 - 51)
Typic Cryoboroll - clayey; Typic Cryoboralf - skeletal	In several isolated areas in the eastern and southern half of the region.	7,000 - 11,500 (2,134 - 3,505)	In materials largely weathered in place from shale and sandstone at lower elevation and from igneous and metamorphic rocks at higher elevations.	15 - 25 (38 - 63)
Typic Cryoboroll - clayey; Typic Cryorthent - clayey	Occupy benches, mountain slopes, and alluvial fans mainly along the western border of the region.	8,000 - 10,000 (2,438 - 3,048)	In materials weathered in place from shale or sandstone.	15 - 20 (38 - 51)
Argic Cryoboroll - loamy; Typic Cryoboralf - loamy	On benches, mountain slopes, high terraces, hills, ridges, fans, till plains, moraines, and valley side slopes in the eastern central part of the region.	8,000 - 11,000 (2,438 - 3,353)	In residuum from a variety of crystalline and sedimentary rocks, glacial outwash, and colluvial-alluvial material.	15 - 30 (38 - 76)
Lithic Haploboroll - skeletal - rock outcrop	Located only in a very limited area on the eastern border of the region. Occupy mountain slopes, foothills, and ridges (hogbacks) formed by uplifted sedimentary rocks and colluvial materials from these rocks. Igneous and metamorphic rocks are the most common throughout most of the area where these soils occur.	5,500 - 8,000 (1,676 - 2,438)	- -	15 - 24 (38 - 61)

<sup>1</sup>Based on the Bulletin No. 566 S., Soils of Colorado, Colorado State University Experiment Station, Fort Collins (1977). Prepared in cooperation with the Soil Conservation Service, U. S. Department of Agriculture.

which are closely associated and characteristically found together within a particular type of landscape setting. Soil map units having good potential for such uses as camping, picnicking, hiking, and development of recreation facilities include two types--the Ustollic Haplargid unit, which is noted for the scenery associated with it; and the Aridic Argiboroll-Aridic Haploboroll unit, which has wildlife development potential, particularly for deer and grouse. These units, as well as the Lithic Ustic Torriorthent unit, are found in the study corridor.

Sediment yield, the mass of sediment transported per unit area per unit time, is very minor in the higher zones where most of the runoff is snowmelt and vegetative cover conditions are generally good. Sediment yield classification parameters are defined in the following table:

#### SEDIMENT YIELD

<u>Type of Erosion</u>	<u>Definition</u>
Severe	Stream banks or gullies with average depth of 5 feet (1.5 m) or more and having a sediment yield of 1.0-2.0 acre feet/bank mile/year (770-1530 m <sup>3</sup> /bank km/year)
Very High	1.0-3.0 acre feet/square mile/year (480-1430 m <sup>3</sup> /km <sup>2</sup> /year)
High	0.5-1.0 acre feet/square mile/year (240-480 m <sup>3</sup> /km <sup>2</sup> /year)
Moderate	0.2-0.5 acre feet/square mile/year (100-240 m <sup>3</sup> /km <sup>2</sup> /year)
Low	0.1-0.2 acre feet/square mile/year (50-100 m <sup>3</sup> /km <sup>2</sup> /year)
Very Low	0.1 acre feet/square mile/year (50 m <sup>3</sup> /km <sup>2</sup> /year)

Naturally high yields have been increased by overgrazing in the lower zones, and the arid climate has inhibited regeneration of the vegetative cover. As shown in figure 2-4, areas of both moderate and high sediment yield exist in the study corridor.



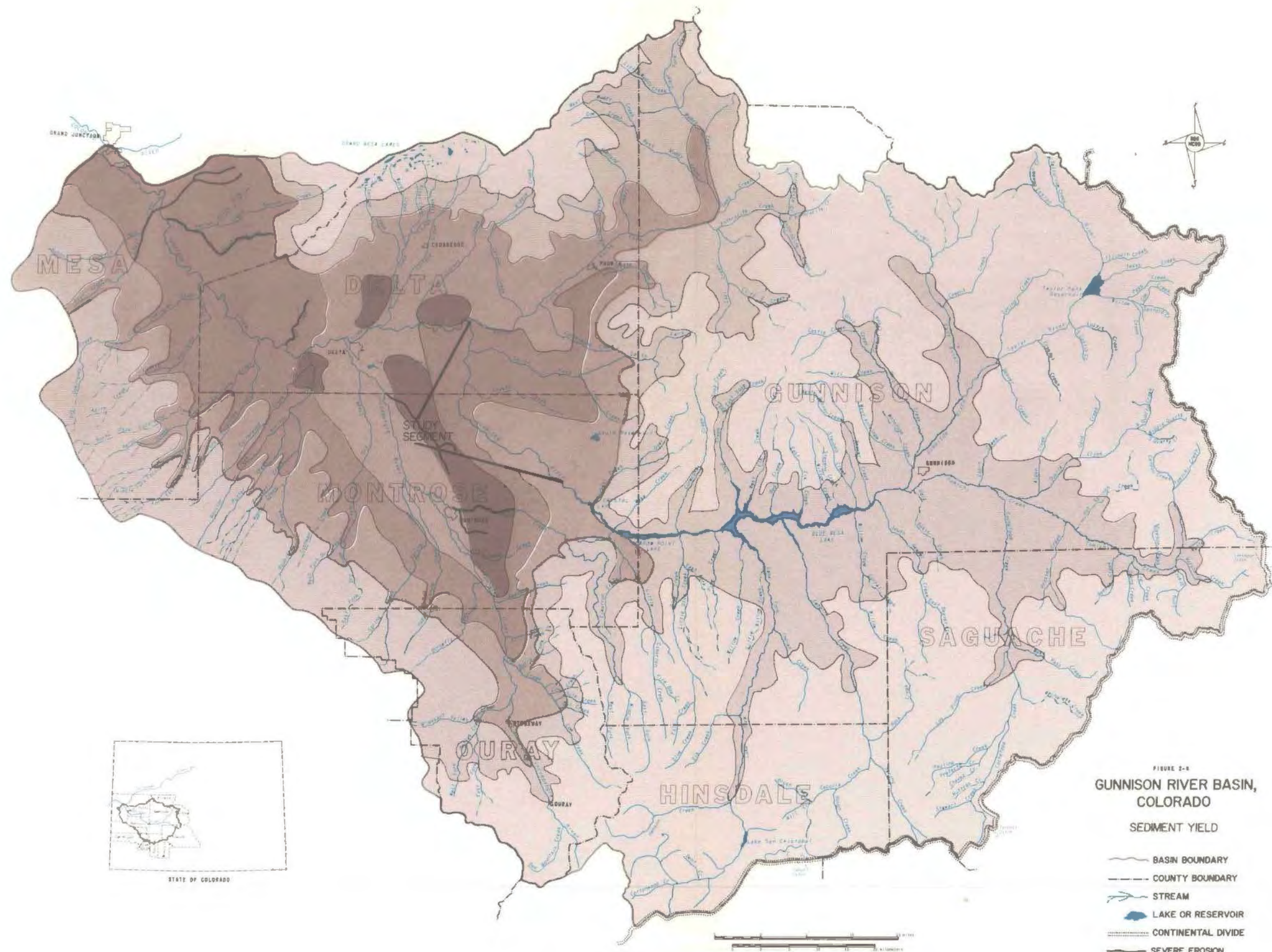


FIGURE 2-8  
GUNNISON RIVER BASIN,  
COLORADO

SEDIMENT YIELD

- BASIN BOUNDARY
- - - COUNTY BOUNDARY
- STREAM
- LAKE OR RESERVOIR
- CONTINENTAL DIVIDE
- SEVERE EROSION
- VERY HIGH YIELD
- HIGH YIELD
- MODERATE YIELD
- LOW YIELD
- VERY LOW YIELD

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Source: Colorado Land Use Commission

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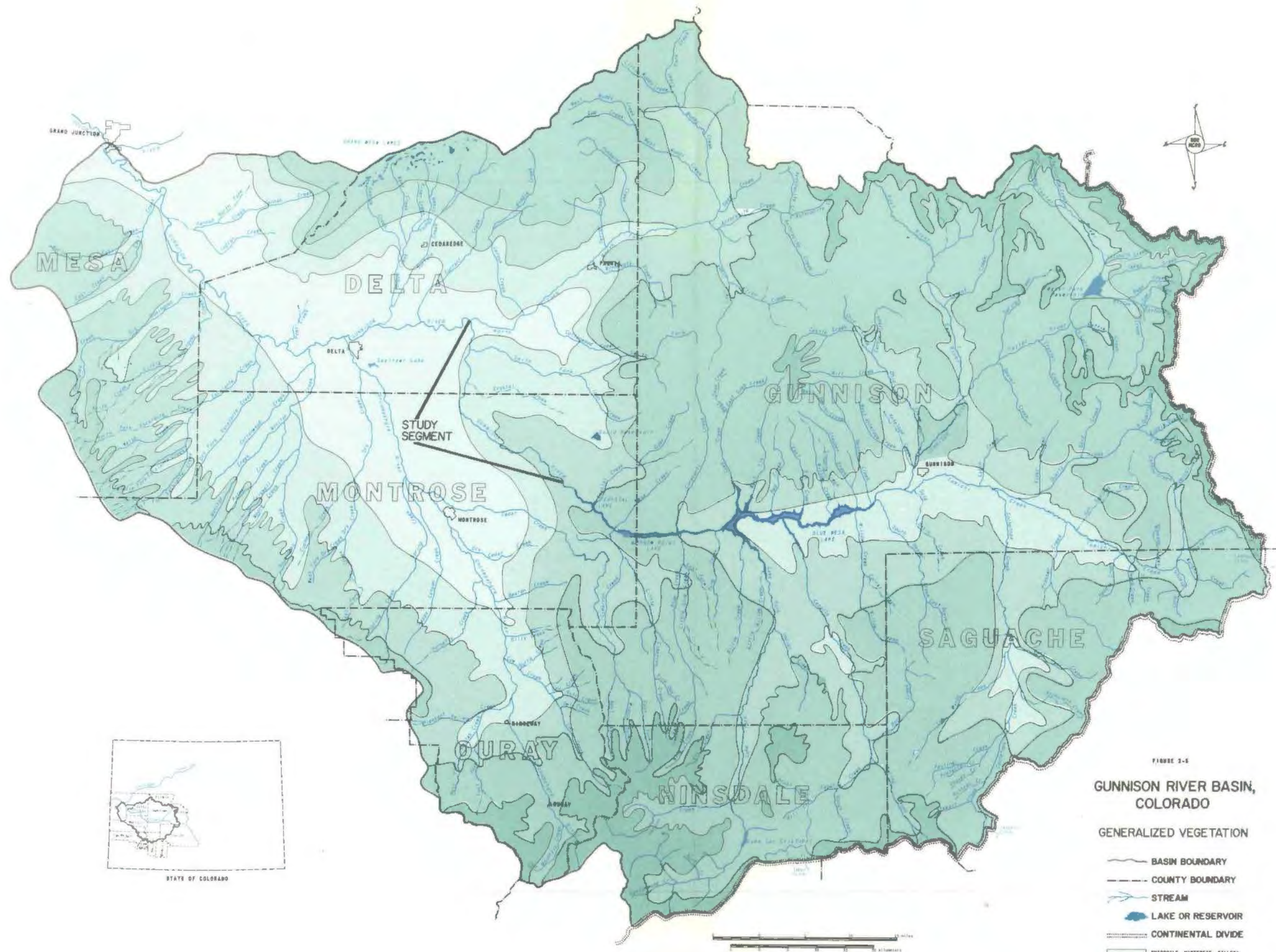


FIGURE 3-6  
GUNNISON RIVER BASIN,  
COLORADO

GENERALIZED VEGETATION

- BASIN BOUNDARY
- - - COUNTY BOUNDARY
- STREAM
- LAKE OR RESERVOIR
- CONTINENTAL DIVIDE
- SHRUBSCALE, WINTERFAT, GALLET
- SAGEBUSH, PINYON PINE, JUNIPER, INDIAN RICEGRASS, HEERLE-AND-THORPE, WESTERN WHEATGRASS
- SCRUB OAK, SAGEBUSH, MOUNTAIN SHRUB, WESTERN WHEATGRASS
- LOOSEPOLE PINE, ENGLISH SPURGE, SOUTHERN FIR, ASPEN, THOMPSON PINE, MOUNTAIN SPRUCE
- GRASSES, REDDER, WILLOWS—ADDER TIMBERLINE

Source: U. S. Department of Agriculture, Soil Conservation Service



## Vegetation

A wide range of cover conditions exists, making this an area of great ecological diversity. In addition to irrigated and dry farmland, there are five major vegetative types present (see figure 2-5). Of these, approximately 52 percent of the pinyon-juniper-sagebrush, 37 percent of the salt desert shrub, 10 percent of the ponderosa pine-scrub oak, and 1 percent of the spruce-fir types have been converted to irrigated farmland. These altered lands now produce such cash crops as fruit, grass, and alfalfa hay. Less than 1 percent of the pinyon-juniper-sagebrush type has been converted to dry farmland which produces some hay and winter wheat.

## Water Resources

Melting snowpack in the high mountain areas is the region's principal water supply. Water yields to the Gunnison River range from more than 30 inches (76.2 cm) per year of runoff in parts of the Anthracite Range and West Elk and San Juan Mountains, to less than 1 inch (2.5 cm) per year in the low, dry, warmer parts of the region. The drainage area above the study segment accounts for 60 percent of the undepleted flow of the Gunnison River, i.e., the flow that would have existed without the influence of man.

Surface waters of the region are generally of excellent quality and, in most areas, well suited to irrigation. There are a few places in the lower part of the region where return flows from irrigated areas, or inflows from salt or sediment-producing areas, contain undesirable amounts of sediment or dissolved salts. These small flows are rapidly diluted by the larger streams into which they flow. The adverse effects are generally localized, and they have little influence on the quality of the water supply of the region as a whole.

The Gunnison River above the study segment is used for generation of hydroelectric power as well as for municipal, industrial, and irrigation purposes. Small quantities are diverted from the headwaters of the Gunnison to the Arkansas and Rio Grande Basins by the Larkspur, Tarbell, and Tabor Ditches. The Gunnison Tunnel, whose intake is located just upstream from the study segment, furnishes water for irrigation to the nearby Uncompahgre Valley. Completed in 1910, it was the first Bureau of Reclamation project in Colorado.

The only significant change altering average upper basin depletions since 1960 was the development of the Curecanti Unit. This unit, authorized by the Colorado River Storage Project Act (P.L. 84-485) in 1956 and constructed by the Bureau of Reclamation, supplies

long-term hydroelectric power and carryover water storage for the Upper Colorado River Basin. This unit consists of 3 dams and reservoirs--Blue Mesa, Morrow Point, and Crystal--and inundates nearly 35 miles (56 km) of the Gunnison River above the Study segment. Figure 2-5a shows regional water resource developments.

North of Blue Mesa Reservoir in western Gunnison County, the Bureau of Reclamation's authorized Fruitland Mesa Project would take water from three Gunnison River tributaries--Soap, Curecanti, and Crystal Creeks. Soap Creek flows would be regulated by Soap Park Reservoir. The project would irrigate lands in Montrose and Delta Counties, east of the study area. Return flows would enter the Gunnison River via the Smith Fork and Crystal Creek.

Ground water in the region is uncommon and high in dissolved solids. Consequently, there has been relatively little use of this water source, and relatively little data have been developed on its use. It is estimated that ground water provides less than one percent of the region's total water consumption.

### Fish and Wildlife

The diversity of vegetative cover and water temperature conditions provides a wide variety of fish and wildlife habitat types. (Figure 2-6 illustrates some popular game species' distribution in the Gunnison Basin.) Virtually all lakes and streams are managed by the Colorado Division of Wildlife, with primary emphasis on such trout species as the rainbow, German brown, and cutthroat. With some exceptions, such as mule deer, which are increasing from a sub-optimal level, most fish and wildlife populations within the region are currently at or near optimum levels with respect to their habitats.

The valley floors below 6,000 feet (1,829 m) in elevation are predominantly agricultural and are of limited value to wildlife relative to natural vegetation. Lands up to 1,000 feet (300 m) above the irrigated fields contain primarily sagebrush and associated plant species, many of which are utilized by wildlife. These areas generally constitute the lower limits of big game winter range and are valuable to a host of other wildlife species, including many small mammals, raptors, and songbirds.

Areas between 7,000 and 8,000 feet (2,134 and 2,438 m) elevation are the heart of big game winter range for mule deer and elk, and they also support a small number of Rocky Mountain bighorn sheep in the winter. Above 8,000 feet (2,438 m), subalpine and alpine vegetation provide summer range for big game. Sparsely vegetated high mountain peaks and isolated rocky crags provide summer range for the bighorn sheep.

Endangered fish and wildlife species of the region that are on the Federal list include the American peregrine falcon, bald eagle, and





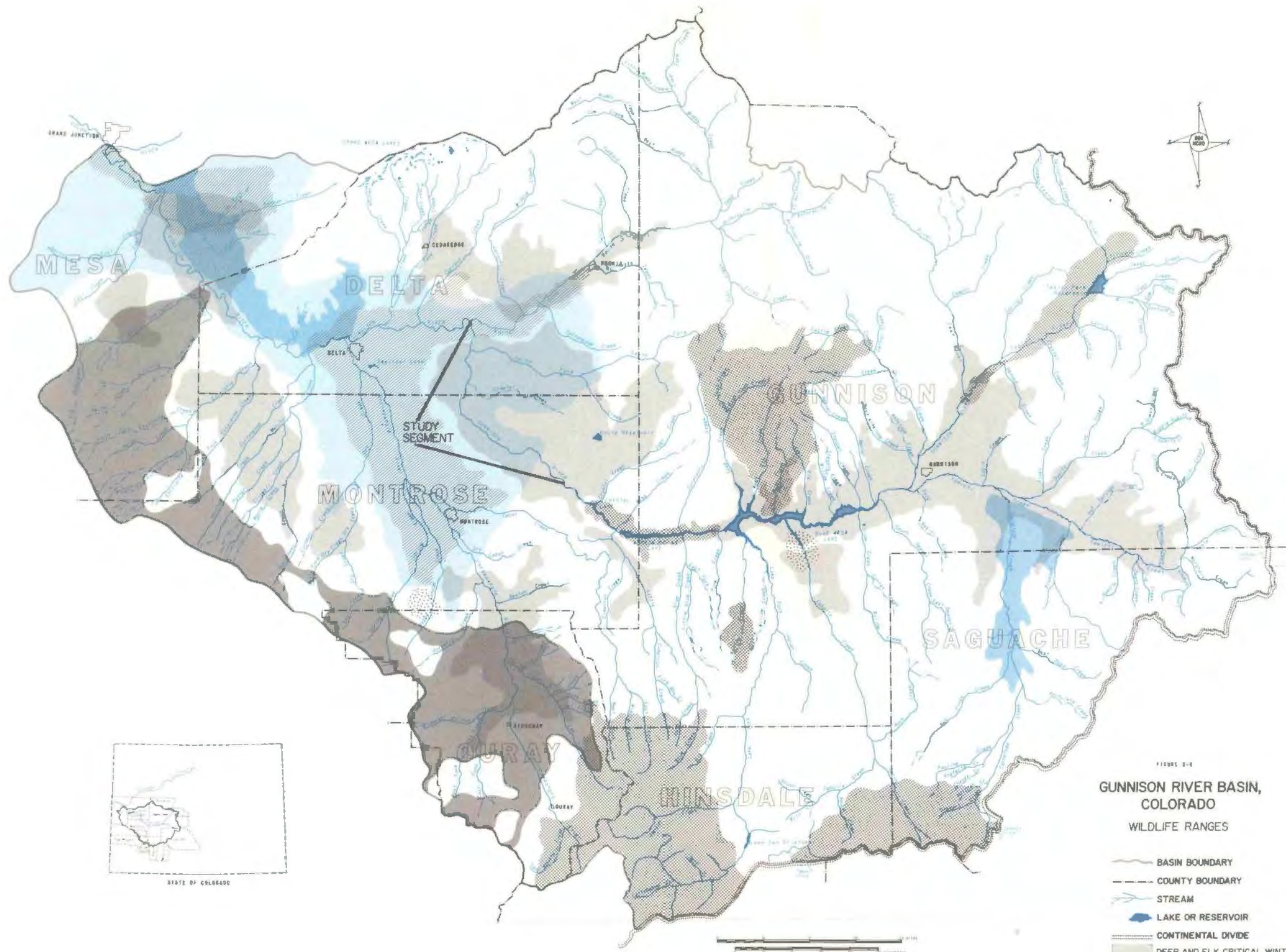


FIGURE 2-4  
GUNNISON RIVER BASIN,  
COLORADO  
WILDLIFE RANGES

- BASIN BOUNDARY
- - - COUNTY BOUNDARY
- STREAM
- LAKE OR RESERVOIR
- CONTINENTAL DIVIDE
- DEER AND ELK CRITICAL WINTER RANGE
- BIGHORN SHEEP RANGE
- SAGE GROUSE STRUTTING GROUNDS
- WILD TURKEY RANGE AND CONCENTRATIONS
- ANTELOPE RANGE
- PHEASANT RANGE
- CHUKAR RANGE

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Colorado squawfish.<sup>2</sup> The razorback sucker (humpback sucker), proposed for inclusion on the Federal list as a threatened species, is found in the Gunnison River below the study area. The river otter, peregrine falcon, greater sandhill crane, humpback sucker, Colorado squawfish, and white pelican appear on the Colorado threatened and endangered species list<sup>3</sup> and are found, at least occasionally, within the regional area.

### Cultural Resources

Archeological evidence indicates that the Gunnison River area has been sporadically utilized on a temporary, seasonal basis over the past 10,000 years by a variety of cultural groups. Fragmentary Folsom points, dating from approximately 10,000 years ago, have been found on the Uncompahgre Plateau and near the town of Cimarron just south of Morrow Point Dam. Excavated sites in the general region suggest intermittent occupation and possible influence by Desert Archaic, Basketmaker, Fremont, and Anasazi cultural groups.

It has been suggested that Shoshonean speakers, historically known as the Utes, gradually moved into the area after A.D. 1150. The Tabeguache of the Uncompahgre Ute band wintered along the Uncompahgre and Gunnison Rivers between present-day Montrose and Grand Junction. During the summer they hunted at higher elevations in the San Juan Mountains to the south and in the headwaters of the Gunnison River along Tomichi Creek to the east. Many of the small, temporary campsites located in the vicinity of Blue Mesa Lake and along the rims of the Black Canyon of the Gunnison National Monument are apparently related to this late prehistoric and early historic occupation.

The Black Canyon region has been known to Europeans since the late 1700s. In 1765 the Juan de Rivera Expedition found the Black Canyon area of the Gunnison River while searching for silver. In 1776 the Dominguez-Escalante Expedition crossed the North Fork of the Gunnison, which they called the San Javier. Exploration of the region resumed in the 1830s with the arrival of fur trappers. The area became so well traveled that Antione Robidoux built a fur trading fort by the Uncompahgre River in 1835 which lasted until

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2. Endangered and Threatened Wildlife and Plants, U.S.D.I., Fish and Wildlife Service. Federal Register, Thursday, July 14, 1977, Part V.

3. Colorado Threatened and Endangered Wildlife List. An action of the Colorado Wildlife Commission. February 1, 1976.

the 1840s. In addition to fur trappers, some of the more prominent visitors to the Gunnison country included Marcus Whitman, of Oregon mission fame, and Captain John W. Gunnison, for whom the Gunnison River was named.

The 1860s saw major developments in the region, including the discovery of silver and gold in the San Juan Mountains in 1861. The Ute Indians blocked exploration, however, and it was not until they were moved as a result of the Brunot Treaty of 1873 that the San Juans boomed.

In 1875 a road over Marshall Pass was completed, and the town of Gunnison had effective transportation. That same year, Ferdinand V. Hayden, one of Colorado's best-known surveyors, provided the first accurate surveys for the Gunnison and Tomichi areas. In 1881 tracks of the Denver and Rio Grande Railroad reached Gunnison. This narrow gauge line provided the San Juans with cheap transportation, and mining boomed. Though most of the route of the narrow gauge railroad is now inundated by the Curecanti Project, a small section is exposed above Morrow Point Dam.

In 1910 the Gunnison Diversion Tunnel was completed, sending the Gunnison River's water from East Portal to the Uncompahgre Valley to irrigate 80,000 acres of land. This was one of Colorado's first diversion tunnels. Because of its historic significance, the tunnel has been named a National Engineering Landmark by the American Society of Civil Engineers.

### Recreational Resources

Today the region is renowned for its abundance and diversity of recreation resources. More than 95 percent of the Gunnison River within the study corridor, about 28 miles (45 km), is contained in either Black Canyon of the Gunnison National Monument (12.7 miles, 20.4 km) or Gunnison Gorge Recreation Lands (13.5 miles, 21.7 km).

Major recreation areas, or areas where recreation is a primary use, attract visitors from a large geographic region. These areas are depicted in figure 2-7. Nearly 90 percent of the approximately 256,000 acres (103,600 ha) associated with these areas, as summarized in table 2-2, is in Federal ownership. Recreation acreage represents about 5 percent of the total land and water surface in the region. Besides Federal areas, the total includes State, local, private, and quasi-public facilities, as well as sites listed on the National Register of Historic Places and the National Registry of Natural Landmarks.

Although most of the reservoirs in the region have been constructed to serve irrigation water needs, many also supply such recreation opportunities as boating and fishing. Numerous fishing lakes are concentrated northwest of the study segment on Grand Mesa, one of America's largest flat-top mountains, at elevations of about 10,000 feet (3,048 m).

Several rivers and streams that possess noteworthy value for fishing and river floating, located within 150 miles (240 km) of the study corridor, are shown in figure 2-7a. Among these, the Taylor River is well known for its fishery and the Dolores, Colorado, and Arkansas for floating and related activities.

Table 2-2

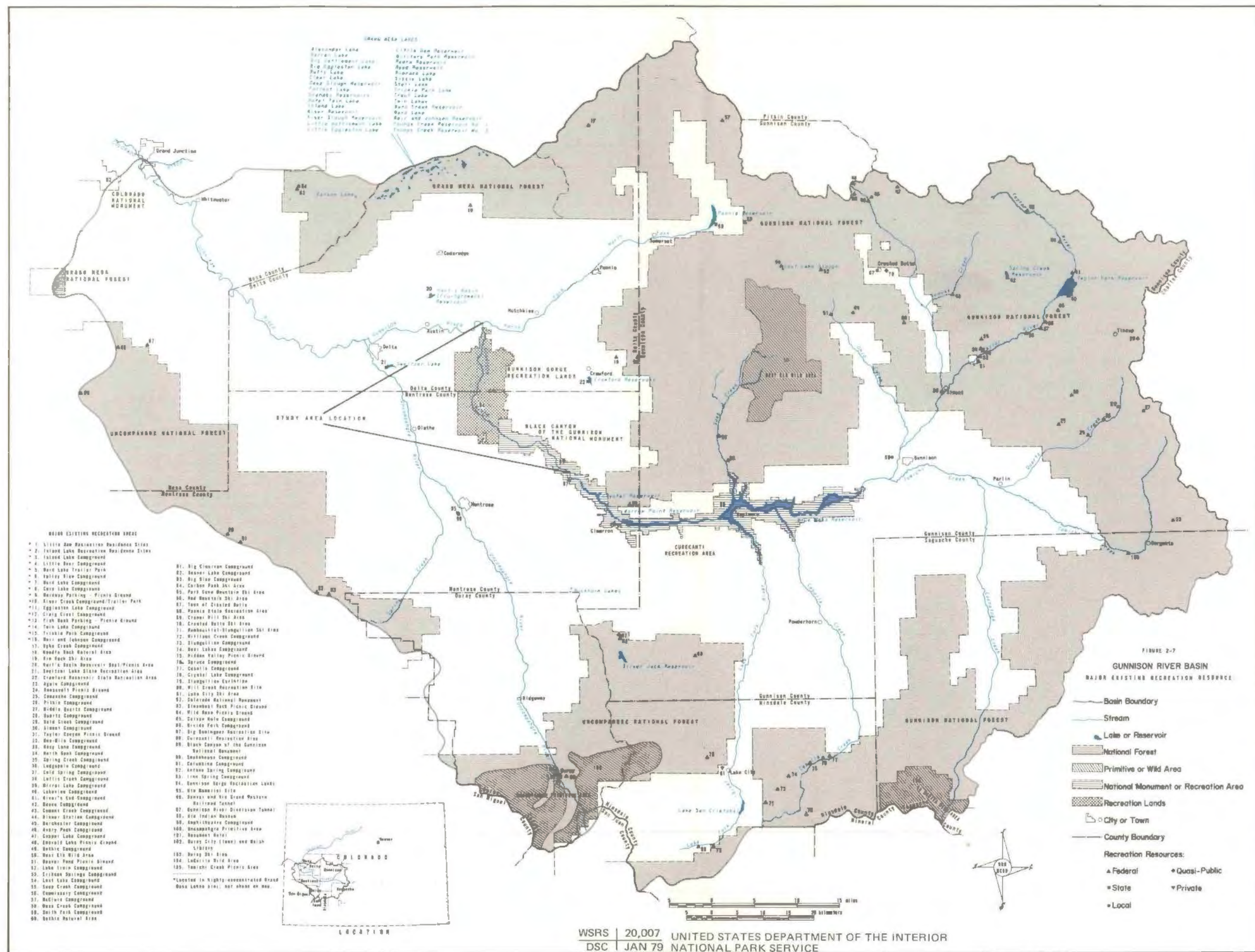
GUNNISON RIVER REGION  
Existing Recreation Acreage

<u>Ownership</u>	<u>Acres (Hectares)</u>	<u>Percent</u>
Federal:		
U.S. Forest Service	141,800 ( 57,400)	55
National Park Service	57,200 ( 23,100)	22
Bureau of Land Management (Public Lands)	30,300 ( 12,300)	12
State	2,900 ( 1,200)	1
Local:		
City	800 ( 330)	less than 1
County	100 ( 50)	less than 1
Private	22,800 ( 9,200)	9
Quasi-public*	<u>100 ( 50)</u>	<u>less than 1</u>
TOTALS	256,000 (103,600)	100

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\*Under private ownership or control, but open to the public.







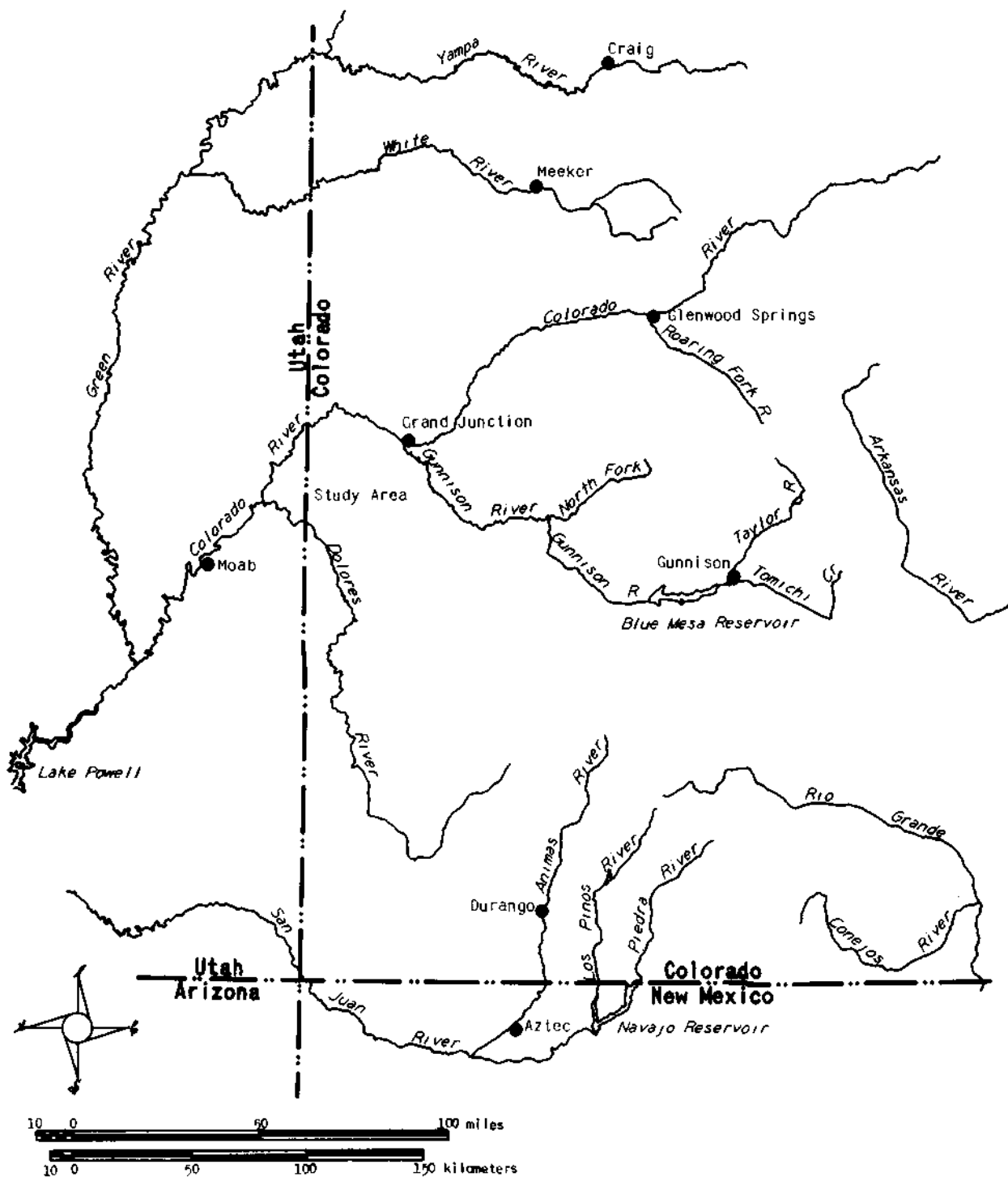


FIGURE 2-7a  
COMPARATIVE RIVERS  
WITHIN 150 MILES OF STUDY AREA  
GUNNISON WILD AND SCENIC RIVER

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Estimates of recreation use occurring in the region during 1973 are given in table 2-3, ranked in their order of popularity. For the activities shown, the length of recreation season varies between about 250 days for hiking and 150 days for snow skiing.

According to the 1976 Colorado State Comprehensive Outdoor Recreation Plan (SCORP), recreation needs exist in Region 10 for all activities listed in table 2-3. Although the exact magnitude of these needs is not known in many instances, the SCORP does recognize that Colorado's rivers should be protected for their scenic and environmental values, in addition to making them available for recreation use.

Table 2-3  
GUNNISON RIVER REGION  
Participation in Selected Activities in 1973

<u>Activity</u>	<u>Participation (Activity Days)<sup>1</sup></u>		
	<u>Colorado Residents</u>	<u>Non-Residents</u>	<u>Total</u>
Fishing	2,312,700 <sup>2</sup>	991,100 <sup>2</sup>	3,303,800 <sup>2</sup>
Hiking (x-country/trails)	852,700	2,181,600	3,034,300
Camping	949,900	1,512,900	2,462,800
Picnicking	453,400	1,753,200	2,206,600
Four-wheeling (Roads/Trails/ x-country)	345,400	1,046,500	1,391,900
Pleasure driving (Parks/ Recreation Areas)	64,800	1,230,300	1,295,100
Horseback riding (Trails/ x-country)	528,900	335,000	863,900
Hunting	312,600 <sup>2</sup>	78,100 <sup>2</sup>	390,700 <sup>2</sup>
Game playing (Open Space)	356,200	25,800	382,000
Snowskiing (x-country)	183,500	51,800	235,300
Power Boating	21,600	125,400	147,000
Snowmobiling (Open Space)	129,500	12,900	142,400
Boating-water skiing	10,800	91,100	101,900
Technical mountain climbing	10,800	68,700	79,500
TOTALS	6,532,800	9,504,400	16,037,200

<sup>1</sup> Except as noted, all data are estimated from the 1974 Interim Colorado Comprehensive Outdoor Recreation Plan (Region 10) and are rounded to the nearest hundred activity days.

<sup>2</sup> Estimate, based on Colorado Division of Wildlife information.



Much of the canyon use  
in the monument occurs at overlooks  
along the north and south rims.

## Population and Economy

Between 1960 and 1970 population grew within the region at the rather slow rate of 1.8 percent. More recently (1970-75), population has increased 8 percent as the recreation industry, migration from urban centers, the ingress of retired and semi-retired people, and manufacturing and energy-minerals sectors have expanded. Western State College in Gunnison, the new Delta-Montrose Area Vocational School, Crested Butte ski area, Curecanti National Recreation Area, and Black Canyon of the Gunnison National Monument enhance the attractiveness of the region as a place to live and work.

In 1970 Delta and Montrose Counties accounted for 75 percent of the region's population of 45,000. Population density in some areas of the region was as low as 0.2 persons/sq mi (0.08 persons/sq km) in 1970. Compared with Statewide figures, the region had a higher proportion of persons over 65 years of age; a slightly lower level of formal education attainment; and a slightly lower level of housing quality based upon the number of persons per unit.

In fiscal year 1972-73, 12.5 percent of the total population was on welfare, and 6.7 percent received food stamps. Both of these figures exceed comparable data computed on a Statewide basis. This suggests that a significant percentage of the residents are not sharing in the region's general economic well-being.

Agriculture is the major employer, accounting for 17.8 percent of the total civilian work force in 1973. Although total farm income is generally smaller than total non-farm income, it is larger than any other industry sector.

Mining continues to run second as an employer, but it has the potential to expand substantially as coal deposits in the region are developed. Most of the present coal exploration and mining development is located between Delta and Paonia Reservoir; however, some coal mines also occur near Cedaredge and south of Montrose.

Income in the trade and services sector reflects the significance of recreation and tourist activities. For Delta and Montrose Counties, it is estimated that tourists contribute nearly 50 percent of revenues from lodging and 25 percent from restaurants, with lesser amounts from gasoline, retail food sales, retail trade, and other services. In fiscal year 1975, Delta County received about \$1.5 million in tourist dollars, and Montrose County received about \$2.5 million, representing a combined increase of approximately 30 percent since 1965.

Total employment in the region increased from 15,000 to 17,000 between 1970 and 1973, and unemployment decreased from 6.2 to 4.2 percent between 1970 and 1974. Labor force participation rates for the region were significantly lower than the State average in 1970, a fact only partially explained by the large retirement population. Regional per capita personal income, although below the \$5,514 average for Colorado, has shown consistent growth since 1970. The percent of families (15.9) below the poverty level further indicates a financial disparity or deficit for some segments of the population.

### Transportation

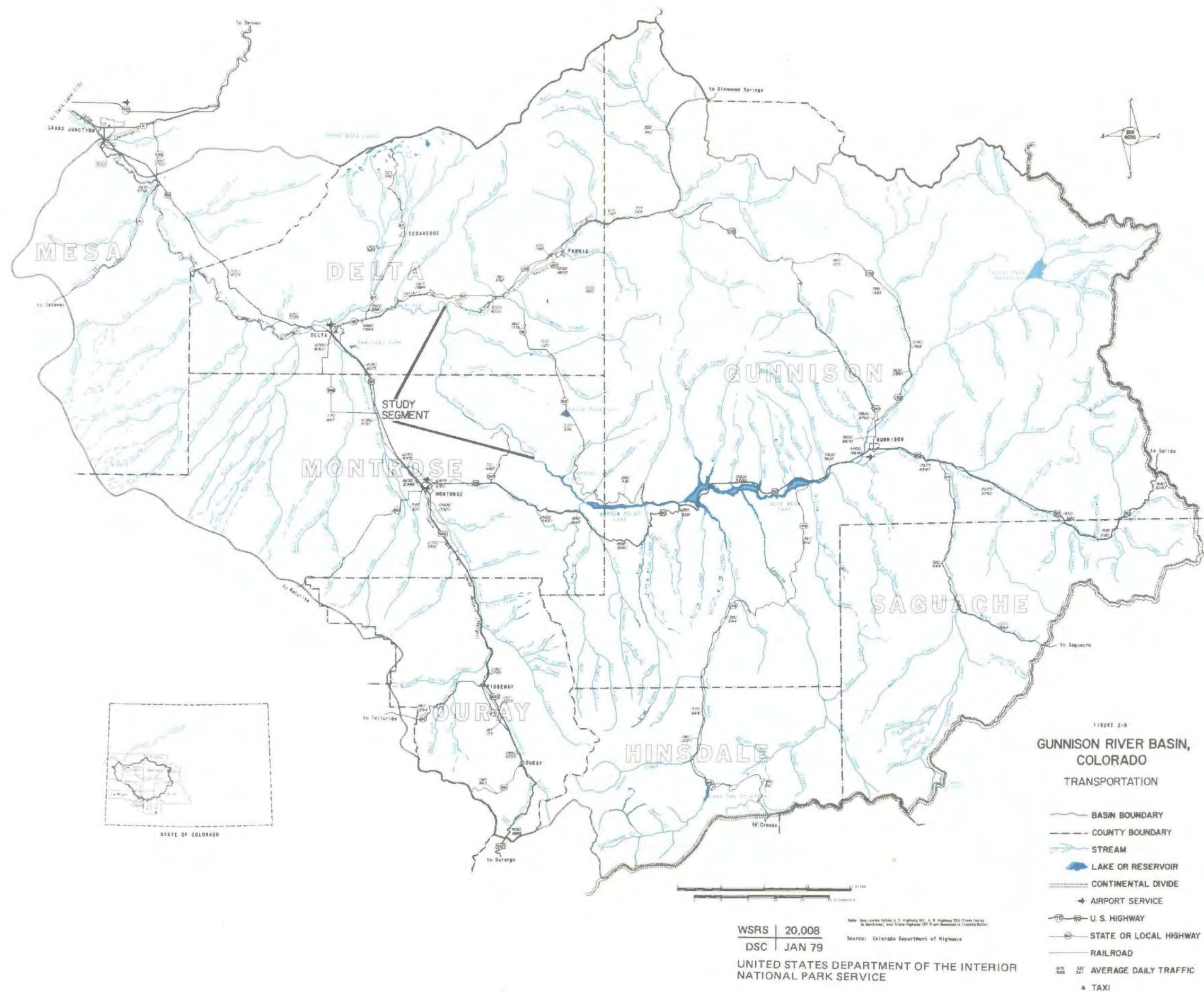
While scheduled public transportation is available to Montrose, Delta, Gunnison, and Grand Junction, special arrangements must be made to get to the river study area. Major airports, railroads, and highways that serve these cities and towns are shown in figure 2-8.

Federal, State, and county highways account for about 4,700 miles (7,564 km) of roadway in the region, ranging from the all-weather U.S. highways to "primitive" roads on which no maintenance is done. East-west Interstate 70 passes through Grand Junction immediately outside the region and is the closest interstate highway to the study area.

Transcontinental U.S. Highway 50 provides the principal access to the Black Canyon of the Gunnison National Monument. Eight miles (13 km) east of Montrose this highway connects with State Route 347, the 5-mile (8 km) entrance road to the south rim of the monument. It is about 80 miles (129 km) by road from the south rim, through Montrose, Delta, and Crawford, to the north rim of the monument.

Four commercial airports serve the region--Walker Field, north of Grand Junction off Interstate 70; Blake Field, north of the U.S. 50 and State Highway 92 intersection at Delta; Montrose County Airport, located north of Montrose off U.S. Highway 50; and Gunnison County Airport, also off U.S. Highway 50 south of Gunnison.

Although passenger and freight rail service have declined, expanding development of resources in this area may reverse this trend. Since the Denver and Rio Grande Western Railroad line from Montrose to Ridgway was abandoned recently, freight rail service in the region is quite limited. The only passenger rail service available is immediately outside the region at Grand Junction.





### Landownership and Use

About 3.7 million acres (1.5 million ha), or 70 percent of the regional land area, are publicly owned. The majority of these public lands are in Federal ownership, with the national forests accounting for some 2.3 million acres (930,800 ha). Most of the region's remaining 1.4 million acres (583,000 ha), about 28 percent of the total acreage, are in private ownership. Less than 1 percent of the total acreage consists of State and local areas.

Lands are used primarily for the production of minerals, timber, range-forage, mountain meadow hay, and irrigated crops. There are approximately 246,000 acres (106,841 ha) of irrigated land within the region. Fruit and truck crop farming, together with general and cash-crop farming and the production of forage and grain crops for livestock feed, are the principal types of agricultural cropping. Private and publicly owned nonirrigated land furnishes summer grazing for livestock enterprises.

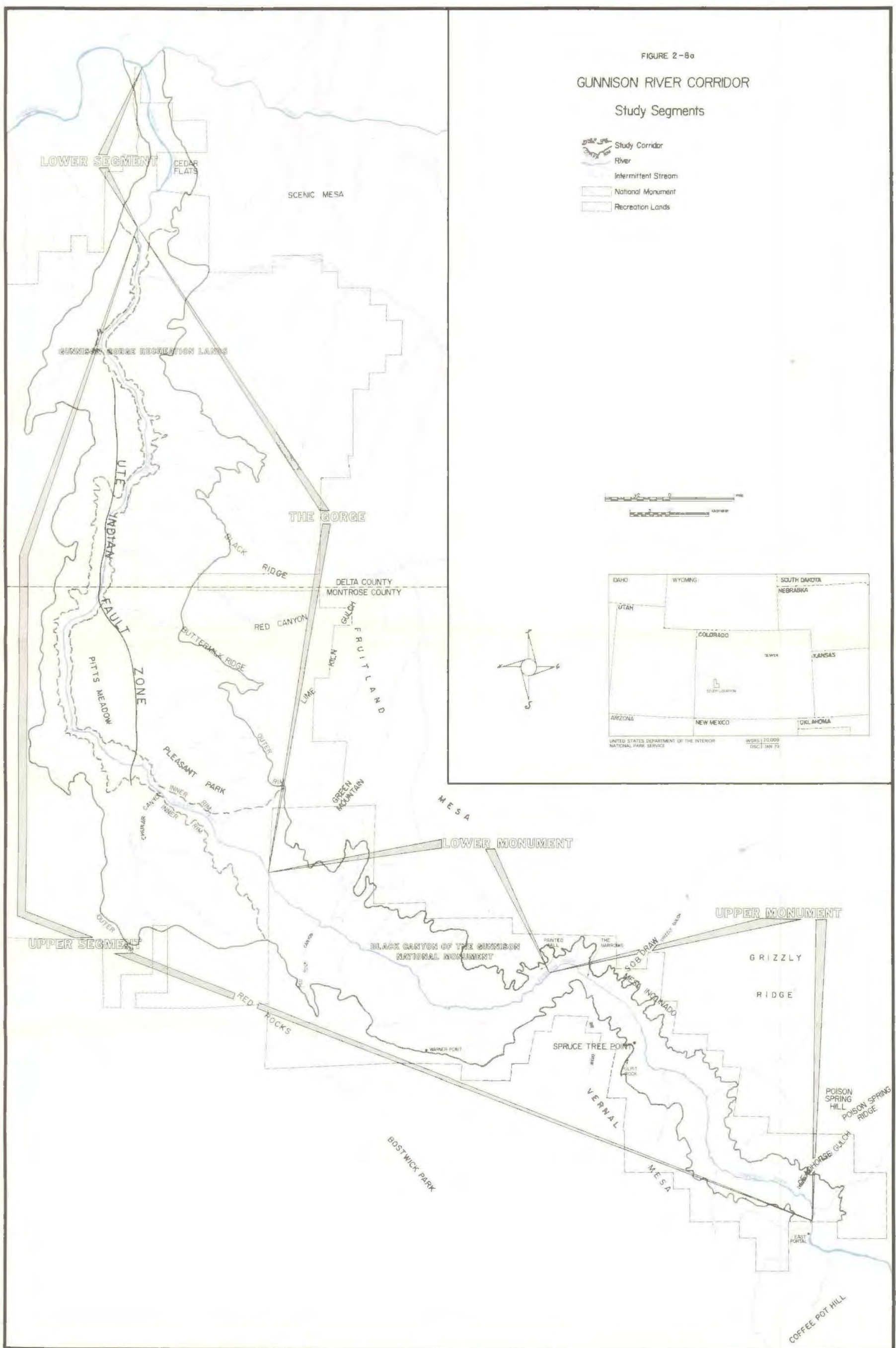
### RIVER CORRIDOR SETTING

The most prominent feature of the Gunnison River is the 50-mile (80 km) Black Canyon which begins near the community of Sapinero and extends downstream to the vicinity of Austin, below the confluence of the main stem with the North Fork. The upper Black Canyon, which extends from near Sapinero to the Crystal Dam site, was set aside for hydropower development in the 1950s; the lower Black Canyon remains essentially undeveloped, especially through the study area. The study area described in this chapter is a narrow visual corridor, averaging about 3/4-mile (1.2 km) wide, immediately adjacent to the river in the lower Black Canyon from the upstream boundary of Black Canyon of the Gunnison National Monument to the confluence with the North Fork (see figure 2-8a).

The Gunnison River was considered in two segments because of their differing quality of resource values within the study corridor. The 26.2-mile (41.8 km) upper segment, from the upstream boundary of the monument to about 1 mile (1.6 km) below the Smith Fork confluence, was considered as a unit because of its consistently outstanding geologic, scenic, wildlife, and recreation values. On the other hand, the 2.7-mile (4.3 km) lower segment, from below the Smith Fork to the North Fork confluence, exhibited virtually none of these to an outstanding degree.

### Scenic and Geologic Resources

The overall dominant character of the study corridor is the awe-inspiring and overwhelming magnitude of the river-carved canyon,





as depicted in figure 2-9. The canyon ranges from extremely steep and narrow upstream in the monument to very wide, with a small inner canyon, in the gorge downstream. Scenic values found here are inextricably interwoven with the geologic and physiographic features of the area.

From certain vantage points along the rim of the canyon, the best being in the monument, outstanding panoramas are possible of the canyon and the surrounding hills and valleys. The river, nearly 1/2 mile (0.8 km) below, can be seen and heard, but distance obscures the turbulent flow of the river and a casual glance gives no indication of movement--the river and its canyon apparently frozen in time. Even when one realizes and respects the tremendous power of water and the resistance to erosion of the rock through which it has cut, it is difficult to comprehend a feature of such proportions.

It is impossible to pass along the river for the length of the study area without getting in the water. The shoreline is generally narrow, leaving only the river and sheer, high walls in many locations. The upstream part of the river in the monument has a very steep gradient, resulting in a series of rapids and deep, dark pools. In the lower part within the gorge, the gradient is gradual and the river more placid.

Riparian vegetation is typical of other rivers in the southwest, but it contrasts with the adjacent pinyon-juniper and exposed rock, creating an oasis-like appearance. Each twist and turn of the river offers a new view of the canyon walls, streambank vegetation, rocks, rapids, and pools. As a result, the quality of the scenery is outstanding.

With its narrow, sheer, dark walls, the monument is breathtaking and unique. It has no significant permanent intrusions, as indicated in figure 2-10. The gorge is not as overwhelming, but its inner-outer canyon relationship is geologically more diverse. It is relatively free of intrusions down to the Smith Fork. Downstream from the Smith Fork the scenic quality is not outstanding and a few minor, permanent visual intrusions exist. However, the peaceful waters provide an opportunity for whitewater boaters to relax after the hectic rapids. These and other scenic and geologic values are summarized in table 2-4 and discussed by segment below.

Upper Segment. This 26-mile (42 km) reach of the study corridor extends from the upstream monument boundary to about 1 mile (2 km) below the Smith Fork, as shown in figure 2-10. From a scenic standpoint, this segment is further divisible into three distinct elements--the upper monument, lower monument, and gorge.

FIGURE 2-9  
GUNNISON RIVER STUDY, COLORADO  
CANYON PROFILES

(see Visual Intrusions Map for locations)

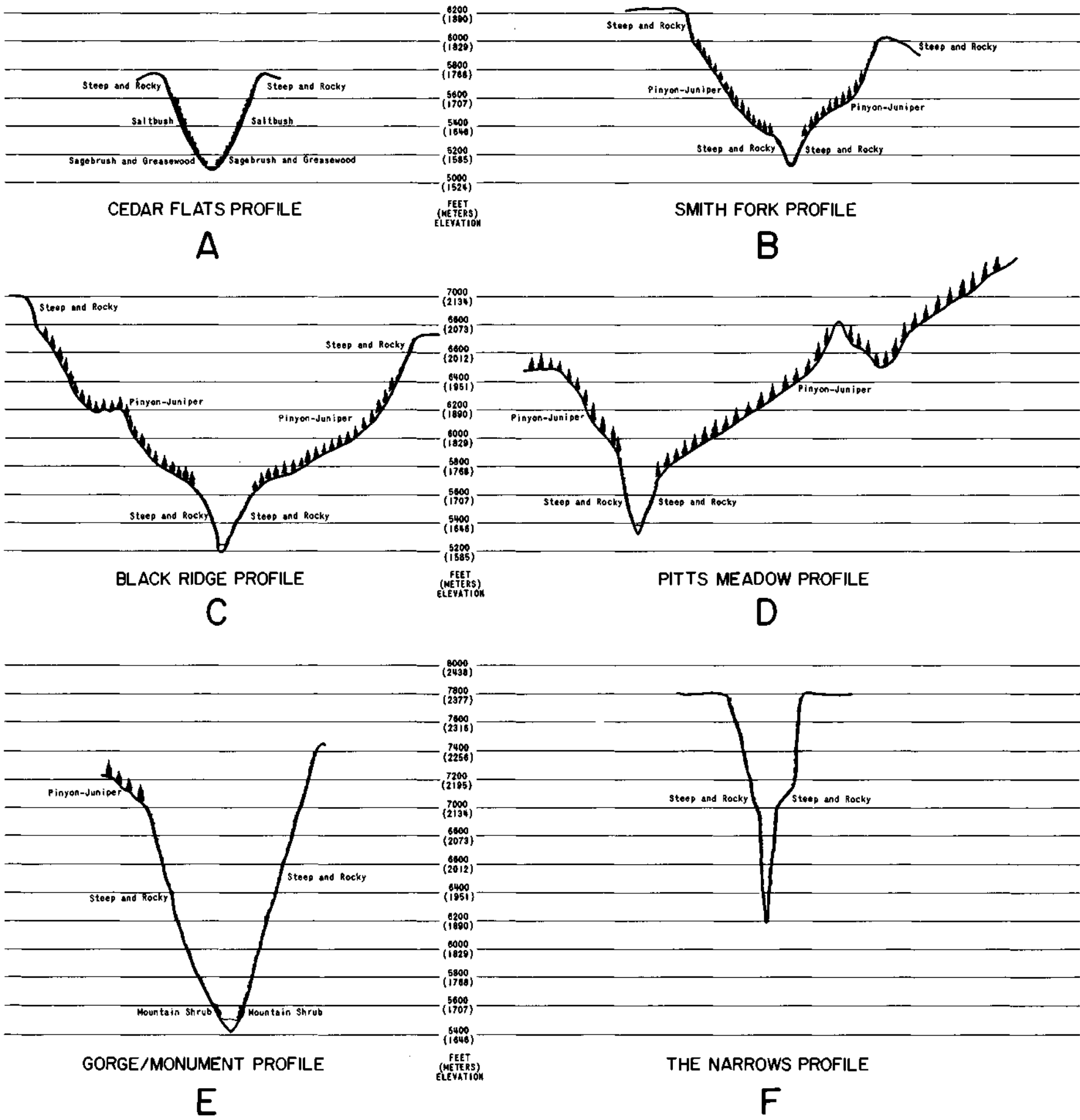


FIGURE 2-10

GUNNISON RIVER CORRIDOR

Visual Intrusions

- Study Corridor
- River
- Intermittent Stream
- National Monument
- Recreation Lands
- Profile Location (see "Canyon Profiles")
- Powerline
- Rock House
- Mine
- Rusty Water
- Cable Crossing
- Jeep Road
- Corral

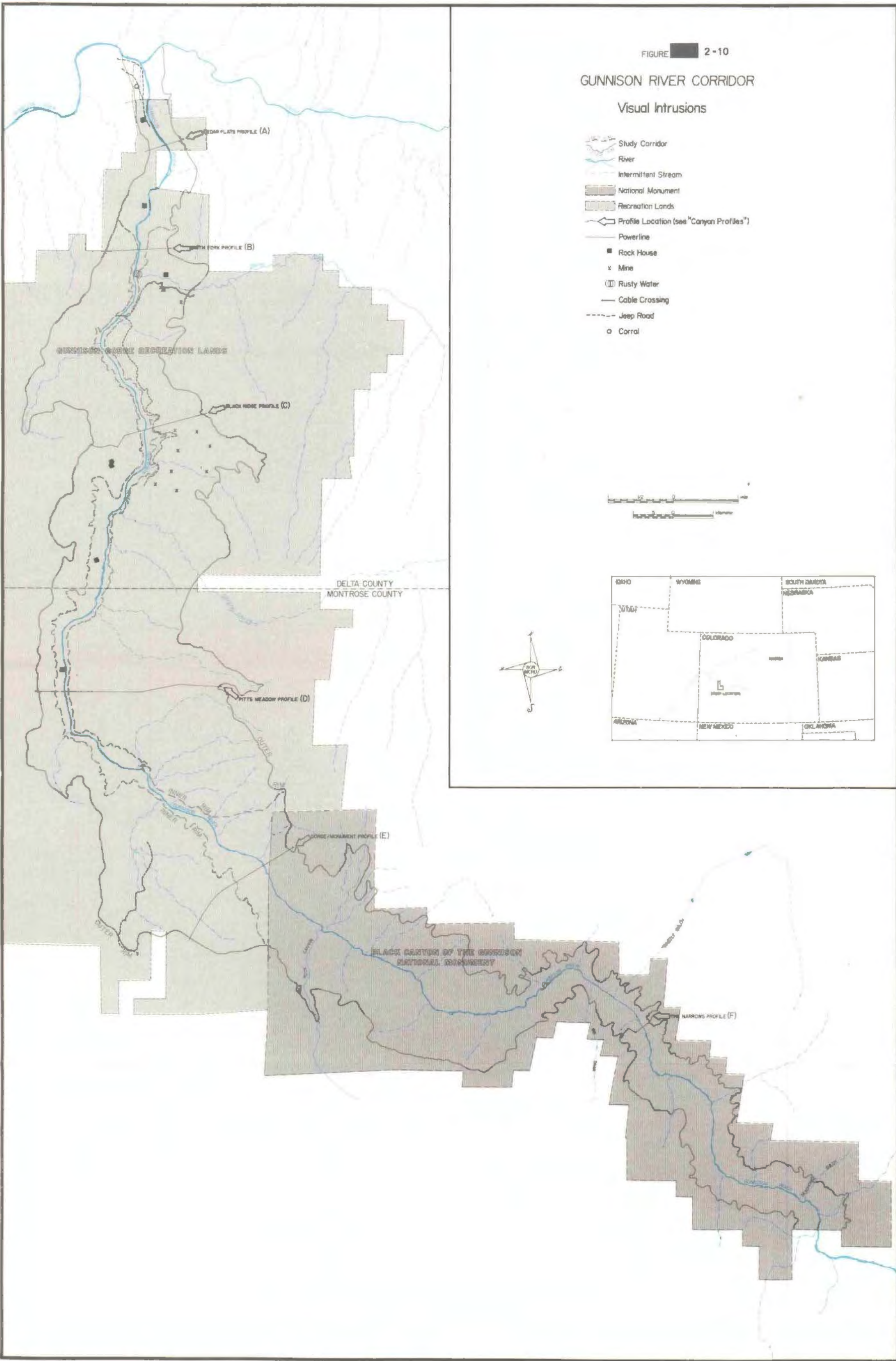


TABLE 2-4  
GUNNISON RIVER CORRIDOR  
Scenic & Geologic Resources

Comparison Criteria	UPPER SEGMENT			LOWER SEGMENT
	Upper Monument 7.5 miles (12.1 km)	Lower Monument 5.2 miles (8.4 km)	Gorge 13.5 miles (21.7 km)	2.7 miles (4.3 km)
Land Form*	Canyon of dark rock and extremely narrow; e.g., in narrows (40 ft. (12 m)) across at river, 1/4 mile (0.4 km) at top, 1,750 ft. (533 m) high. Some walls sheer and unbroken with network of pegmatite dikes and sills. Rock layers often severely deformed. Shoreline very narrow, rocky.	Canyon of dark rock, narrow but more flaring. Walls broken and eroded, 2000-2500 feet (610-762 m) high. Less spectacular network of dikes and sills. Rock layers often severely deformed. Shoreline narrow, rocky.	Steep, narrow inner canyon of dark rock severely deformed; 400-800 ft. (122-244 m) high, 1/8-1/4 mile (0.2-0.4 km) wide. Exposed faults. Outer canyon of horizontally-oriented red and tan sedimentary strata, 1000 to 2000 ft. (305-610 m) high, 2 miles (3 km) wide. Larger shoreline flats of soil and sand narrowing again below Ute Trail. Two large tributary streams in Smith Fork and Red Canyons.	Gradually diminishing (vertically) canyon. Precambrian disappears at upper boundary of this segment. Sedimentary strata are highly eroded and not well defined. Shallow canyon.
Vegetation	Minor to non-existent on walls; scattered Douglas fir and pinyon-juniper. Riparian: Douglas fir and ponderosa pine in upper half, lush pinyon-juniper in lower half, grassy shrubs, occasional cottonwoods, and box elder.	Minor on walls but more Douglas fir and pinyon-juniper than in Upper Monument segment. Riparian: Pinyon-juniper occasional cottonwoods and box elders; grasses and shrubs.	Outer canyon covered with pinyon-juniper. Riparian at bottom of inner canyon; pinyon-juniper, grasses, shrubs, occasional cottonwood, and box elder.	Scattered pinyon-juniper on north side, no perception of vegetation on south side. Riparian - reeds; grasses.
Water	Steepest gradient, swift, clear, average rate of fall 120 ft./mi. (23m/km) 480 feet (146 m) in one 2-mile (3-km) stretch. Large boulders create many rapids and falls. Huge boulders at Narrows hide river. One water-fall 17 ft. (5 m) high w/43-foot (13-m) cataract.	Steep gradient, swift, clear, average rate of fall 45 ft./mile (8 m/km). Large boulders create many rapids. Muddy water enters through Red Rock Canyon from irrigated fields.	Gradual gradient, slower, not very clear, average rate of fall 27 ft./mile (5 m/km). Few rapids, except for several good rapids in a 2-mile (3-km) stretch upstream from Smith Fork.	Shallow gradient, placid, meandering. Water not clear, but not as muddy as North Fork downstream.
Landmarks	Named rock formations; e.g., Painted Wall, The Narrows, Pulpit Rock. 43-foot (13-m)-long cataract terminating in a 17-foot (5-m) waterfall.	Warner Point.	Named features; Pitts Meadow, Pleasant Park, Buttermilk Ridge, Black Ridge, Red Canyon, Smith Fork; geologic faults in Ute Trail and Chukar Canyon areas.	None.
Spatial Enclosure	Extreme.	Extreme but less so than in the Upper Monument segment.	Strong in bottom of inner canyon but not extreme because of low walls. Moderate in Ute Trail area and in outer canyon.	Weak.
Panoramas	Breathtaking views from canyon rim and river bottom.	Outstanding views but less impressive than in the Upper Monument segment.	Outstanding views of inner and outer canyons and fault zones from Ute Trail and other high points along rim.	None outstanding.
Cultural Features	None.	None.	Six historic cabins; three along the river and three others within the outer rim.	Two historic cabins.
Visual Intrusions	Very few: toilet and fire rings at base of Gunnison Point; trash of fishermen and hikers along river.	Very few: toilet and fire rings at base of Warner Point; trash from fishermen and hikers; irrigation water discharge down Red Rocks Canyon.	Several: trash of fishermen and boaters; two low-standard dirt roads, neither visible from the river; cable across top of inner canyon; 3/4 mile (1.2 km) upstream from Smith Fork; rusty water from Smith Fork; area of recent mining activity (not visible from river on trails).	Several: powerline, steel covers; two low-standard dirt roads; irrigation ditch.
Scenic Quality	Outstanding.	Outstanding.	Outstanding.	Not outstanding.
Relative Wilderness Quality	Pristine.	Pristine.	Nearly pristine.	Not pristine.

\* Refer to river canyon profiles in figure 3-1.

Upper Monument (7.5 miles; 12.1 km). The upper reach of the Gunnison River in the monument, from its southern boundary to the vicinity of Painted Wall, flows through a deep, sombre, precipitous gorge of dark Precambrian rock where the plummeting vertical aspect of the canyon walls is extreme. At its most constricted point--a site known as the Narrows (see figure 2-9, profile F)--the canyon is only 40 feet (12 m) across at its base, 1,750 feet (530 m) from river to rim, and 1,100 feet (335 m) across those rims.

Average stream gradient is 120 feet per mile (22 m/km), in comparison to 80 feet per mile (15 m/km) for the Yellowstone River in its Grand Canyon. In one 2-mile (3 km) stretch, the Gunnison drops 480 feet (146 m). An even steeper gradient occurs within a 1-mile (2 km) segment of this reach where the river drops 275 feet (84 m), and there is a 43-foot (13 m) cataract terminating in a 17-foot (5 m) waterfall.

The Painted Wall in this segment is the highest cliff in Colorado, averaging 2,250 feet (685 m). The shoreline varies between narrow and nonexistent. It is clogged with rocks and boulders, though there are also some small beaches and thickly vegetated streambanks where box elder grows.

Rainbow and brown trout are common here. Wildlife tends to be sparse down in the canyon, though in warm months birdlife usually is abundant. Violet-green swallows are among the most common birds, often skimming in flocks just above the river, hunting insects. Higher up, wildlife is generally typical of the regional ecosystems.

Lower Monument (5.2 miles; 8.4 km). The lower reach of the Black Canyon through the monument from the vicinity of Painted Wall to the monument-gorge boundary is deeper than the upper stretch--maximum is 2,700 feet (820 m) near Warner Point--but is not quite as spectacular. The walls start to flare outward as shown in figure 2-9 (profile E), and the river's gradient itself is less, averaging 45 feet/mile (9 m/km). The shoreline remains narrow and rocky, the canyon walls dark and rugged, and the vertical aspect extreme and often dizzying. Vegetative and wildlife communities are similar to those of the upper monument, though box elders appear more often on the streambank.

The Gorge (13.5 miles; 21.7 km). About 1 mile (1.6 km) below the monument boundary in the Gunnison Gorge Recreation Lands, the landscape changes abruptly. In this reach which continues downstream to about 1 mile (1.6 km) below the Smith Fork, and which is represented in figure 2-9 (profiles D, C, and B), the younger sedimentary rocks have been stripped partly away over eons of geologic time but are well preserved in an outer wall and rim. The result is a double canyon, composed of an inner and outer gorge.





River flow is severely constricted at the Narrows.



Colorful pegmatite dikes interlace across Painted Wall.



Canyon walls of the lower monument begin to flare outward.



A broad outer canyon dwarfs the narrow inner canyon through the gorge.

The river itself is entrenched in a steep, narrow inner canyon of dark Precambrian rocks, many of which are severely deformed. The distance from river to inner rim varies between 400 and 800 feet (120 and 240 m); inner rim to inner rim distance varies from 600 feet (180 m) to a quarter-mile (400 m). Above this lower inner gorge flares a broad, spacious canyon carved through a succession of lavender, red, green, gray, and tan Jurassic and Cretaceous strata. Depth of this outer gorge ranges between 1,000 and 2,000 feet (300 and 600 m); its width is approximately 2 miles (3 km). Three major tributary canyons drop down to the Gunnison along this segment. The largest of these, the Smith Fork, rises in the West Elk Mountains and contains a fairly large stream, but nearly all of its water is used for irrigation on land northeast of the study area. Red Rock Canyon Creek drains the Bostwick Park area to the south of the monument. Chukar Canyon provides the primary access to the river just below the monument.

The sequence of rocks, which extends from Precambrian to Cretaceous, covers a span of 1.75 billion years. The wide variety of strata tend to color this segment more brilliantly than in the monument; here, in addition to the somber grays, are buffs, greens, lavenders, tans, and reds. This color variety is closely related to the geology which shows many unique structural features, the most prominent being the dramatically exposed Ute Indian Fault and the equally evident Uncompahgre Unconformity.

The shoreline of the inner gorge is variable. In places there are broad flats and benches; almost as often there is little but a rubble of boulders and steep walls dropping directly into the river. Some box elders grow on the riverbanks, along with grasses and shrubs. The outer canyon is sparsely covered with juniper and pinyon, and in many places it is virtually without soil.

The river in this segment drops an average of 27 feet/mile (5 m/km) creating a swift flow in its own right, but it is hardly comparable to the roar and crash of the river in the monument. There are many rapids, the most notable being in a 2-mile (3-km) stretch just below Red Canyon of Crystal Creek where the gradient is 43 feet/mile (8 m/km). Water quality remains high, though there is slightly more suspended matter in the Gunnison here.

There are a number of cultural sites along this segment, including six historic cabins, the Ute Trail, and an abandoned lime kiln. Several comparatively recent manmade intrusions are also present: two rough dirt roads, a cable across the top of the inner gorge about 1 mile (1.6 km) upstream from the figure 2-9 (profile B) representation and an area of recent nonproductive mining near the point represented by profile C. None of these, except the cable, is apparent from the river. Mule deer are occasionally seen and elk less commonly, except in the winter. Resident raptors include the golden eagle, red-tailed hawk, kestrel, and turkey vulture; the





Chukar Canyon in center foreground provides access to the river upstream in the Gunnison Gorge Recreation Lands. (view northwest)



The Uncompahgre Unconformity is evident at the canyon rim above the Narrows.



Numerous rapids line the river just upstream from the Smith Fork confluence.

The gorge is prime habitat for the endangered river otter.



prairie falcon may also nest on the upper rims of the gorge and bald eagles winter here. Thousands of waterfowl also use the gorge as a resting area in the winter months.

Lower Segment. In the last 2.7-mile (4.3-km) portion of the study corridor, extending from 1 mile (1.6 km) below the Smith Fork to the confluence with the North Fork, the Gunnison riverscape changes. The dark Precambrian rocks of the Black Canyon pass below the surface of the river and the sandstone slopes diminish, leaving the area surrounded by Mancos shale. The river flow is placid and the stream course meandering. As opposed to the upper segment, which contains only very minor manmade intrusions, this lower segment has two rough dirt roads, a high-voltage transmission line, and a diversion that are readily visible from the river. Vegetation is sparse, and the landscape lacks features of outstanding quality.

#### Mineral Resources

When the region was first settled in 1873, mining was the principal economic activity. Areas in both Delta and Montrose Counties near the study corridor have been subjected to insignificant mining operations. The exploratory mines, shown in figure 2-10, have been nonproductive. Principal minerals within the corridor include gypsum, sand, and gravel; gold exists in the river gravels. None occur in commercially significant quantities. Further complicating commercial extraction are access to the mineral resources, which is poor, and transportation to nearby market areas, which is inadequate. As a result, there are no known mineral deposits either in the gorge or monument that exist in concentrations and quantities suitable to permit commercial extraction under existing conditions.

#### Energy Resources

Within the corridor there are no known fossil fuels or geothermal resources. The only mineral adjacent to the study area that may have an economic influence on the designation of the Gunnison River is coal. Located several miles north of the study area in the vicinity of the North Fork Valley are the Grand Mesa and Somerset coal fields.

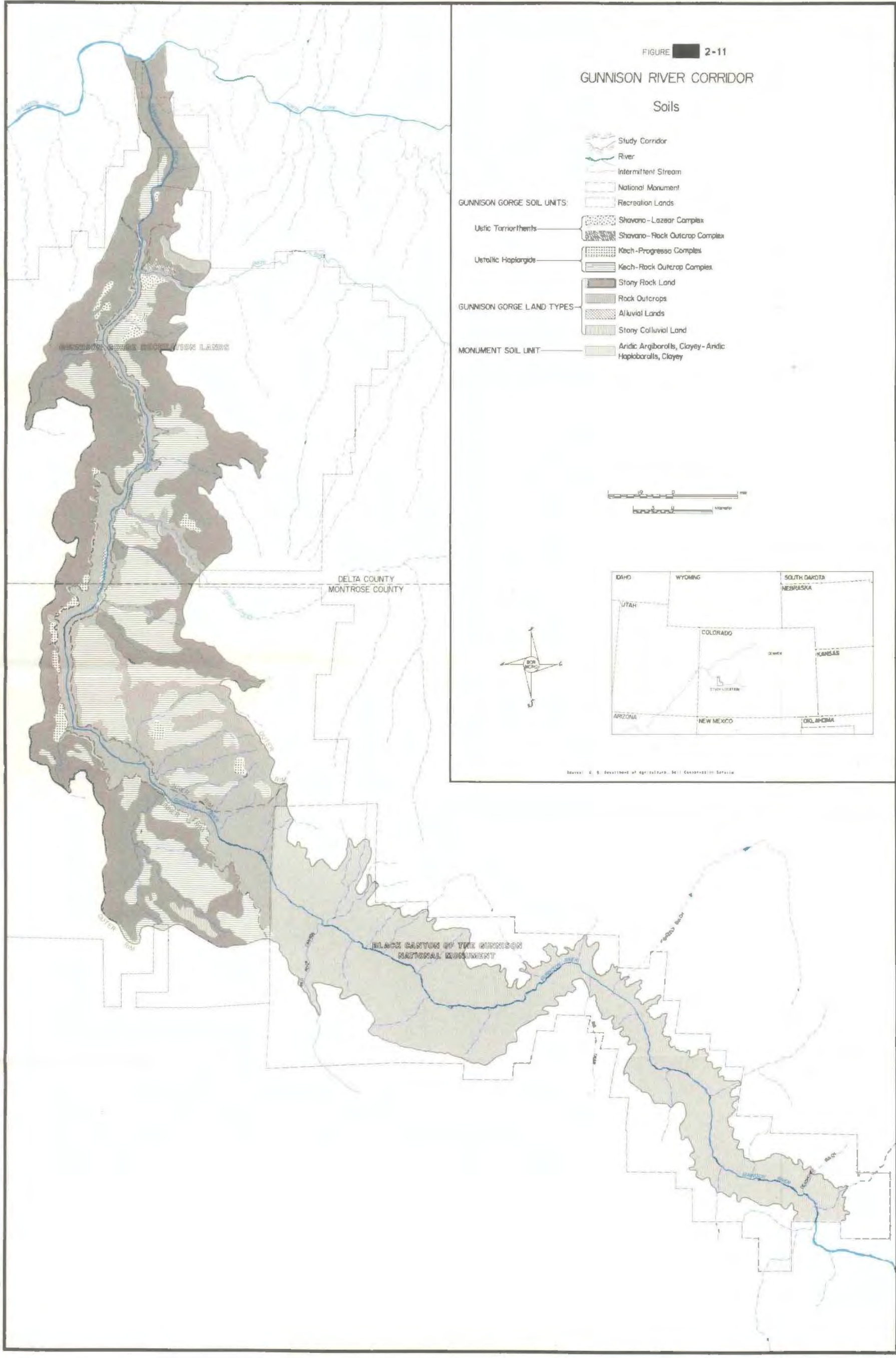
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4. Brauch, Earl F., Mineral Reconnaissance of the Black Canyon of the Gunnison River and Vicinity, Delta and Montrose Counties, Colorado, U.S. Bureau of Mines, Denver, Colorado (September 1976, unpublished) pp. 1 and 13.



Roads border the river above the North Fork confluence.





Formations that contain uranium in other parts of the region are found in the northern end of the gorge. An anomaly of several-times-the-background-scintillation count has been observed by Al Hornbaker of the Colorado Geological Survey in the Salt Wash member of the Morrison Formation along the Ute Trail located about 1 mile (1.6 km) south of the area represented in figure 2-9 (profile C). However, subsequent examination did not reveal any surface mineralization to indicate the source of the anomaly.<sup>5</sup> There are no other known records to suggest the possible presence of uranium in the study area.

According to the U.S. Bureau of Mines, "The area in and adjacent to the Gunnison Gorge is an unlikely province for petroleum accumulation because the core of the gorge is composed of igneous and metamorphic rocks."<sup>6</sup> The only other energy resource is the river, which has potential for hydropower production as discussed in the section on "Water Resources."

### Climate

Few climatological data are available for the study area. Based on readings taken at a weather station on the south rim of the monument at an elevation of 8,100 feet (2,470 m), the annual mean temperature for the period 1969-1975, inclusive, was 42°F (5°C). Annual mean precipitation for the same period was 16 inches (41 cm).

The deep chasms, sharp ridges, and tributary ravines of the canyon, especially through the monument, cause abrupt microclimatic variations. Some recesses of the canyon that are shielded by cliffs receive little or no sunshine. Other parts, including the stretch between The Narrows and Chasm View, are exposed only for an hour or so at midday. The response of vegetation to such microclimatic variations is obvious in the canyon. The north- and south-facing exposures of High Point, for example, show clearly defined boundaries between pinyon-juniper woodland, oak-serviceberry brushland, and patches of Douglas fir forest.

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5. Ibid, p. 8.

6. Ibid, p. 12.

## Soils

The major portion of the study corridor consists of rock outcrop and extremely shallow soils. There are no prime or unique agricultural lands located here. Three main groups of soils occur in the study area, namely, (a) Aridic Argiboroll-Aridic Haploboroll, (b) Lithic Ustic Torriorthent, and (c) Ustollic Haplargid general soil map units. Figure 2-11 shows the general location of soil complexes and land types associated with these units, while table 2-5 lists the characteristics of each.

## Vegetation

There are seven basic vegetative types along the study corridor, which have been combined into three generalized groups (see figure 2-12). These vary with elevation, exposure, slope, and proximity to water. The seven vegetative types and their associated dominant species are (a) mountain shrub - narrow leaf cottonwood and box elder; (b) conifer - ponderosa pine, Douglas fir, and aspen; (c) steep and rocky - pinyon and Utah juniper; (d) shoreline - box elder and willow; (e) sagebrush and greasewood - big sagebrush, black greasewood, and salt cedar; (f) pinyon-juniper - Utah juniper, pinyon, salt cedar, and narrowleaf cottonwood; and (g) saltbush - shadscale, yucca and cactus. A summary of the acreage within each vegetative type appears in table 2-6 and includes the area within the outer rim of the gorge.

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7. A soil complex consists of areas of two or more soils so intermingled that they cannot be shown separately on a soil map. Each area of a complex contains some of each of the dominant soils, with the pattern and relative proportions being about the same in all areas. Land types which are given a descriptive name consist of soils material that is so rocky, shallow, or variable in textures that it cannot be classified by a soil series.



TABLE 2-5  
GUMWISAW RIVER CORRIDOR  
Soil Complexes and Land Types

Major Soil Group	Soil Complex Land Type	Composition	Slope	Topographic Position	Parent Material	Texture	Depth	Effective Root Depth	Water Table	Permeability	Surface Runoff	Erosion Susceptibility	
Lithic Ustic Torrisorthent	Shavano- Laseat Complex: Shavano	45%		Upland	Locally transported sediments weathered from interbedded sandstone and shale	Fine, sandy loam to loam	26" to 40" (66 to 102 cm)	30" (76 cm)	None	Moderate to rapid	Moderate	Moderate to severe	
	Laseat	25%			Same as above	Fine, sandy loam to loam	10" to 20" (25 to 51 cm)	15" (38 cm)	None	Moderate to rapid	Moderate	Moderate to severe	
	Inclusions	20%			Small inclusions of 10% other kinds of soil occur in this complex, as well as 10% exposed sandstone, bedrock and very shallow and stony soils under bedrock.								
	Shavano- Rock outcrop Complex: Shavano	50%			Same as Shavano described above, except the depth to bedrock more consistently near 26" (66 cm) and more rock fragments in the surface.								
	Rock out-	30%			This land type consists of exposed bedrock mixed with minor amounts of shallow to very shallow and stony soils over bedrock - rock types include sandstone or interbedded sandstone and shale								
	Inclusion	20%			Small inclusion of other soils.								
Ustollic Mupleryid	Kach- Progresso Complex: Kach	40%			Small ridges and steep slopes or uplands	Locally transported sediment from sand- stone and inter- bedded shales	Loam to clay loam	10" to 20" (25 to 51 cm)	20" (51 cm)	None	Moderate to slow	Moderate to rapid	Moderate to severe
	Progresso	40%			Upland slope fans and depres- sions	Locally transported sediments from interbedded sand- stone and shales	Loam to clay loam or silty clay loam	20" to 40" (51 to 102 cm)	10" to 30" (25 to 76 cm)	None	Slow	Moderate to rapid	Moderate to severe
	Inclusion	20%			Small inclusion of other soils.								
	Kach - Rock outcrop Complex: Kach	50%	10-40%		Same as Kach described above, except that the soils are more consistently near 10" (25 cm) in depth, and there are more rock fragments and stone on surface.								
	Rock out- crop	30%			Same as land type described under Shavano-Rock outcrop complex.								
	Inclusion	20%			Same inclusions of Progresso, Laseat, and other soils.								
Aridic Argiborville													
(There has been no detailed soil surveys for this group in the monument.)													
Aridic Mupleryid													
(Land Types)	Stony rock	100%	20-70%	This land type consists of exposed bedrock, loose stones and very shallow soil materials over bedrock mixed with pockets of deep-weakly to moderately developed soils. Exposed bedrock and stones cover approximately 50% to 90% of the surface area. Rock outcrops frequently occur along the upper margin of the slope. The surface below these diameters that have weathered from the outcrop and moved down slope by gravity. This land type has limited capacity for storage of moisture and surface runoff is rapid. The most common type of outcrop in this land type is sandstone.									
	Rock over- crops	100%		This land type consists of exposed outcropping of rock mixed with minor amounts of very shallow and stony soils over bedrock. Rock types include sandstone and shale. Exposed outcrops of bedrock occur on over 90% of the surface of this land type. Slopes range from 5% to nearly vertical.									
	Alluvial lands	100%		This land type occupies narrow, winding valleys, small fans and toe slopes. It is developing in valley fill sediments and is well drained. The surface of this land type is usually loamy in texture, but ranges from moderately coarse to moderately fine. This type is highly stratified in both texture and thickness of the various layers. This land type is subject to flooding and deposition can occur with each flood. Material deposited is usually unsorted.									
	Stony Colluvial Land	100%		This land type occurs on toe-slopes or slopes ranging from 0 to 12%. Most areas have little soil development. Surface layers are stratified sandy loams to clay loams with cobble, stone and boulders. Gravel, cobble, and stone content usually exceed 35 percent. The areas are subject to redeposition of new sediments.									

SOURCE: U.S. Soil Conservation Service.







Table 2-6  
GUNNISON RIVER CORRIDOR  
Area by Vegetative types

Vegetative Type	Acres (Hectares)	Percent
Mountain shrub	740 ( 299)	3.0
Conifer	482.5 ( 195)	2.0
Steep and rocky	7,072.5 (2,862)	28.7
Shoreline	97.5 ( 39)	.4
Sagebrush-greasewood	135 ( 55)	.6
Pinyon-juniper	15,690 (6,350)	63.7
Saltbush	407.5 ( 165)	1.6
TOTALS	24,625.0 (9,965)	100.0

Because of variations in microclimate and topography within short distances along the study corridor, some of the vegetative types overlap. Grasses are found throughout the corridor. On the extreme lower end below the Smith Fork, desert shrubs predominate. Above this short segment, sagebrush, oakbrush, and pinyon-juniper are found in each of the vegetative types. At the upper end of the study corridor, in the monument, there are scattered occurrences of aspen and conifers.

Endangered, Threatened, and Sensitive Plants. Gunnison rock cress (Arabis gunnisoniana), which has been proposed for endangered status, is known to occur outside the visual corridor in the monument. Gunnison rock cress may barely extend into the gorge below the monument where there are approximately 1,200 acres (486 ha) suitable for its survival. Several plants found in the monument have been provisionally recommended for listing in the Federal Register as threatened species by the Colorado Native Plant Society. These include: Arabis crandallii (Rock cress sp.); Arabis demissa demissa (Rock cress sp.); and Penstemon teucroides (Germander penstemon).

A number of plants which are either rare or endemic (limited in range to a certain locality) to Colorado and adjacent States have not yet been included on the Federal Register list of endangered and threatened species. These are present along the lower Gunnison River, both in the gorge and the monument. They include the following four species which have been classified as "sensitive" on



Douglas fir exists within the monument segment of the river corridor.

the Colorado Native Plant Society list: Astragalus oophorus, Mahonia fremontii, Chamaechaenactis scaposa, and Penstemon teucroides.

Numerous other endangered, threatened, or sensitive species are found in the region. It is probable that some of these also occur in the study corridor, but no survey has been conducted to verify this.

### Water Resources

The flow of the Gunnison River through the study corridor is derived almost exclusively from upper Gunnison Basin runoff. The discharge of the river is regulated by water releases from the Curecanti Project and by diversions through the Gunnison Tunnel.

The watershed boundaries along the river form a relatively narrow corridor that follows the outer rim of the canyon. This results in many small drainage paths toward the river that have extremely steep gradients, short channel lengths, and relatively small watershed areas.

Because the corridor is located in the semi-arid portion of the region, these gullies flow for only brief periods during the spring snowmelt and during intense summer thunderstorms. Although runoff from this source is sporadic, it does have a significant effect on flow by creating rock dams and changing the course of the river.

River flow has been gaged continuously since 1903 by the U.S. Geological Survey about 1/4 mile (0.4 km) below the Gunnison Diversion Tunnel. Discharge<sub>3</sub> for that period has averaged 1,380 cubic feet per second (39 m<sup>3</sup>/s), or 999,800 acre-feet/year (1.2 billion m<sup>3</sup>/yr).

The Gunnison Tunnel was constructed with a diversion capacity of approximately 1,000 cfs (30 m<sup>3</sup>/s). These diversions generally occur from April through October and have reduced the daily flow of the river below the tunnel.

During the latter part of the irrigation season in 1936, 1949, and 1950, there was no flow in this reach of the river. The Curecanti Project has regulated streamflow so that the discharge is more evenly distributed throughout the year. The effect of regulation is to greatly reduce the spring runoff and to increase the late summer and winter discharges.

Prior to construction of the Curecanti Project, the maximum discharge of the Gunnison River was recorded on June 15, 1921,

when 19,000 cfs ( $54 \text{ m}^3/\text{s}$ ) poured through the canyon below the Gunnison Tunnel. With completion of Crystal Dam (FES 73-21) minimum flows are expected to stabilize near 200 cfs ( $6 \text{ m}^3/\text{s}$ ). Crystal Dam will also trap heavy sediments discharged by the Cimarron River before reaching the monument.

Since the completion of Morrow Point Reservoir, the river has been subjected to daily flow variations of as much as 400 cfs ( $10 \text{ m}^3/\text{s}$ ) below the Gunnison Tunnel. This is because large quantities of water are released through the electrical generating units at Morrow Point during peak demand periods.

Water releases from Morrow Point will be stored in Crystal Dam and released at a fairly constant rate. The Curecanti Project is obligated to provide a consistent flow of about 1,000 cfs ( $30 \text{ m}^3/\text{s}$ ) to the Gunnison Tunnel during the irrigation season when there is available storage in Taylor Park Reservoir or when there is adequate streamflow. This project must also maintain a minimum flow in the river below the Gunnison Tunnel of 200 cfs ( $6 \text{ m}^3/\text{s}$ ).

Specific operating criteria for Crystal Dam, other than project obligations, have not been formulated. However, the Bureau of Reclamation expects to maintain a flow of at least 400 cfs ( $10 \text{ m}^3/\text{s}$ ) below the tunnel whenever Blue Mesa Reservoir is full. This is expected to occur during the March-through-September period in 85 percent of the years.

The Gunnison uplift and the hard, crystalline Precambrian rocks that predominate in the canyon are not conducive to the occurrence of groundwater within the study area. Although there are no measurements, groundwater probably contributes very little, if any, flow to the Gunnison River between the upstream boundary of the monument and the North Fork. There are no known wells and only one developed spring within the study corridor. All domestic water used within the monument is brought by truck from outside sources.

The entire reach of the Gunnison River easily meets State water quality standards as well as criteria required for eligibility as part of the National Wild and Scenic Rivers System. Although the Gunnison River is low in dissolved minerals (i.e., low salinity), the entire reach of the study area is high in iron derived from natural sources. Fecal coliform bacteria levels, which are an indication of contamination by warm-blooded animals, are very low and indicate the cleanliness of the water. The pH of the water is a fairly high 8.3, but this is common for natural waters throughout Colorado. There are no known elements in the water in quantities sufficient to be toxic for fish, wildlife, or humans.

Water flow characteristics through the study reach are partially the result of water rights that are held by upstream and downstream appropriators. Within the study segment there is one small diversion located on the west bank of the river about  $\frac{1}{4}$  mile (0.4 km) upstream from the confluence with the North Fork. Several conditional water decrees have been awarded by the water courts which could affect the reach proposed for designation. Conditional water rights in the segment are held by the City of Delta, Pittsburg and Midway Coal Mining Company, and Colorado-Ute Electric Association, Inc.<sup>8</sup> Since the proposed water development projects associated with these decrees generally overlap each other in location, as shown in figure 2-13 only one, or possibly two, of the projects could conceivably be constructed.

Colorado-Ute. Colorado-Ute Electric Association has a conditional decree for a reservoir with a capacity of 72,650 acre-feet (90 million m<sup>3</sup>) located on the Gunnison River below the confluence with the North Fork. Their Tri-County project would back water to the vicinity of the Smith Fork and inundate about 1 mile (1.6 km) of the eligible river in the lower study corridor. Water from the proposed reservoir would be used for steam electric and power generation. Initially, this project would have a generating capacity of 250 to 500 MW. According to Colorado-Ute, the cost of storage water would be about \$13.00 per acre foot (\$13/1,233 m<sup>3</sup>) initially, then decreasing to no net cost during the sixth year due to increased power and energy revenues. Total cost of such a facility would be approximately \$32.5 million.

Pittsburg and Midway. One of the Pittsburg and Midway Coal Mining Company's five conditional decrees for the development of Gunnison River main stem water is for a dam and large reservoir of 162,700 acre feet (220 million m<sup>3</sup>), although revised projections call for a 193,300-acre foot (237 million m<sup>3</sup>) reservoir. Known as the Cedar Flats project, it would be located approximately halfway between the Smith Fork and North Fork, backing water up to a point just downstream from the monument's northern boundary. Cedar Flats is one feature of Pittsburg and Midway's comprehensive

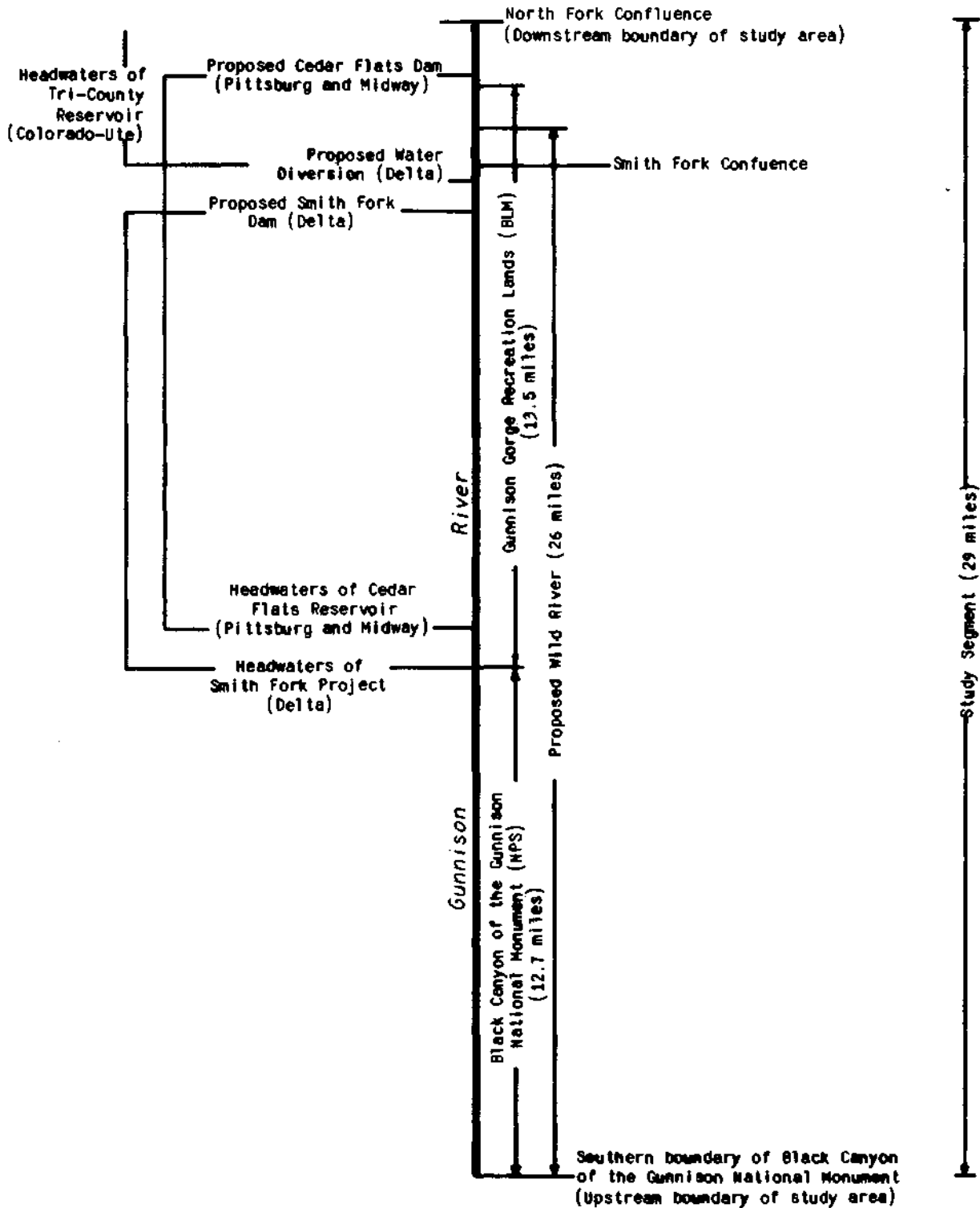
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8. Awarding of conditional water decrees by the Colorado courts establishes a priority date for storing water should a project ever be constructed and is a preliminary and tentative action before applying to the Federal Energy Regulatory Commission.



Figure 2-13

# **GUNNISON RIVER STUDY AREA** **Schematic Diagram of Proposed Water Development Projects**



Gunnison Main Project.<sup>9</sup> (Several smaller impoundments, canals, and pipelines are associated with the decree; but these would be entirely outside the eligible river segments.) The water would be used to generate 60 MW of electric power while making available 100,000 acre feet (123 million m<sup>3</sup>) of water for coal-fired steam generation and, possibly, coal gasification plants. Based on an economic analysis conducted by the Bureau of Land Management for a similar project in the same area, the cost of water would be about \$100 per acre foot (\$100/1,233 m<sup>3</sup>). If the reservoir were constructed, it would inundate over 90 percent of the river below the monument that was found eligible for inclusion in the national system. Total construction cost of the Gunnison Main Project is estimated to be \$103.5 million; the Cedar Flats project accounts for \$62.8 million of the total figure.

City of Delta. An absolute decree<sup>3</sup> is held by the City of Delta for the diversion of up to 50 cfs (1.4 m<sup>3</sup>/s) of water from the Gunnison River for domestic water supply. According to the City of Delta, additional domestic water sources will be needed by 1990 if its projected growth rate continues. The decreed point of diversion for their right is located approximately 1.2 miles (2 km) upstream from the confluence with the Smith Fork. However, Delta is a participant in Project 7, a regional water supply project, and has signed an interim agreement with the Bureau of Reclamation to obtain water from the Curecanti Project. This will be taken from an alternate point of diversion, the Gunnison Tunnel, which is above the study segment. Project 7 is now under construction.

Delta's other proposal--the Smith Fork project--involves a hydroelectric dam within the study segment to provide a replacement power source for their diesel-electric generating facility. The proposed damsite, located about 1 mile (1.6 km) upstream from the confluence with the Smith Fork, was considered an alternative to the present Curecanti project in the late 40's and early 50's.<sup>10</sup> As

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9. Master Plan for the Gunnison Main Project. Tipton and Kalmbach, Inc., Denver, Colorado. May 1976.

10. Reconnaissance Geological Report of the Ridgway Dam Site - Reconnaissance Geology Report of the Smith Fork Dam Site - Gunnison River Project, Colorado. J. Neil Murdock, August 1947.

proposed, the 275-foot (84-m) high concrete arch dam would create a reservoir with 54,000 acre feet (66.6 million m<sup>3</sup>) which would back water up through the gorge to the downstream border of the monument. The proposed installed generating capacity of 35,500 kilowatts would have an average annual energy output of about 186,000 megawatt-hours. Electrical output from this project would be significantly in excess of the city's own requirements, and it is assumed that such energy would be marketed on a regional basis to meet needs in other areas. Based<sup>11</sup> on a reconnaissance study conducted of the Smith Fork project, the cost of water would be about \$180 per acre foot (\$180/1.233 m<sup>3</sup>) annually. Preliminary estimates indicate that total investment costs to Delta, including interest during construction, would be about \$40 million. The possibility exists that some arrangement may be made with another project sponsor to accommodate Delta's domestic water supply and electrical needs in their proposed water development project(s).

Sulphur Gulch Alternative. An alternative to the Cedar Flats, Smith Fork, and Tri-County projects has been formulated which would be totally outside the wild river proposal area. It calls for a dam and reservoir at Sulphur Gulch, with water being pumped from a small impoundment of the Gunnison River below its confluence with the North Fork (see figure 2-13a). Construction of this project is estimated to cost \$18.2 million, and would yield an estimated 100,000 acre-feet (123.3 million m<sup>3</sup>) of water for coal-based energy development. In addition, water and power could potentially be made available to meet the expressed needs of the City of Delta. Project feasibility is contingent upon obtaining the necessary authority to<sup>12</sup> divert the water and to construct the dam, reservoir, and pipeline.

FERC Role. Section 7(b) of the Wild and Scenic Rivers Act places a moratorium on the issuance of permits or licenses by the Federal Energy Regulatory Commission (FERC) on rivers designated for study as possible additions to the national system. To date FERC has not issued licenses for development of any of the described proposals. However, FERC received an application for a preliminary permit from the City of Delta in February 1977 for its

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11. Smith Fork Project Reconnaissance Report, City of Delta, Colorado. R. W. Beck and Associates, Denver, Colorado. August 1976.

12. Gunnison Main Project.

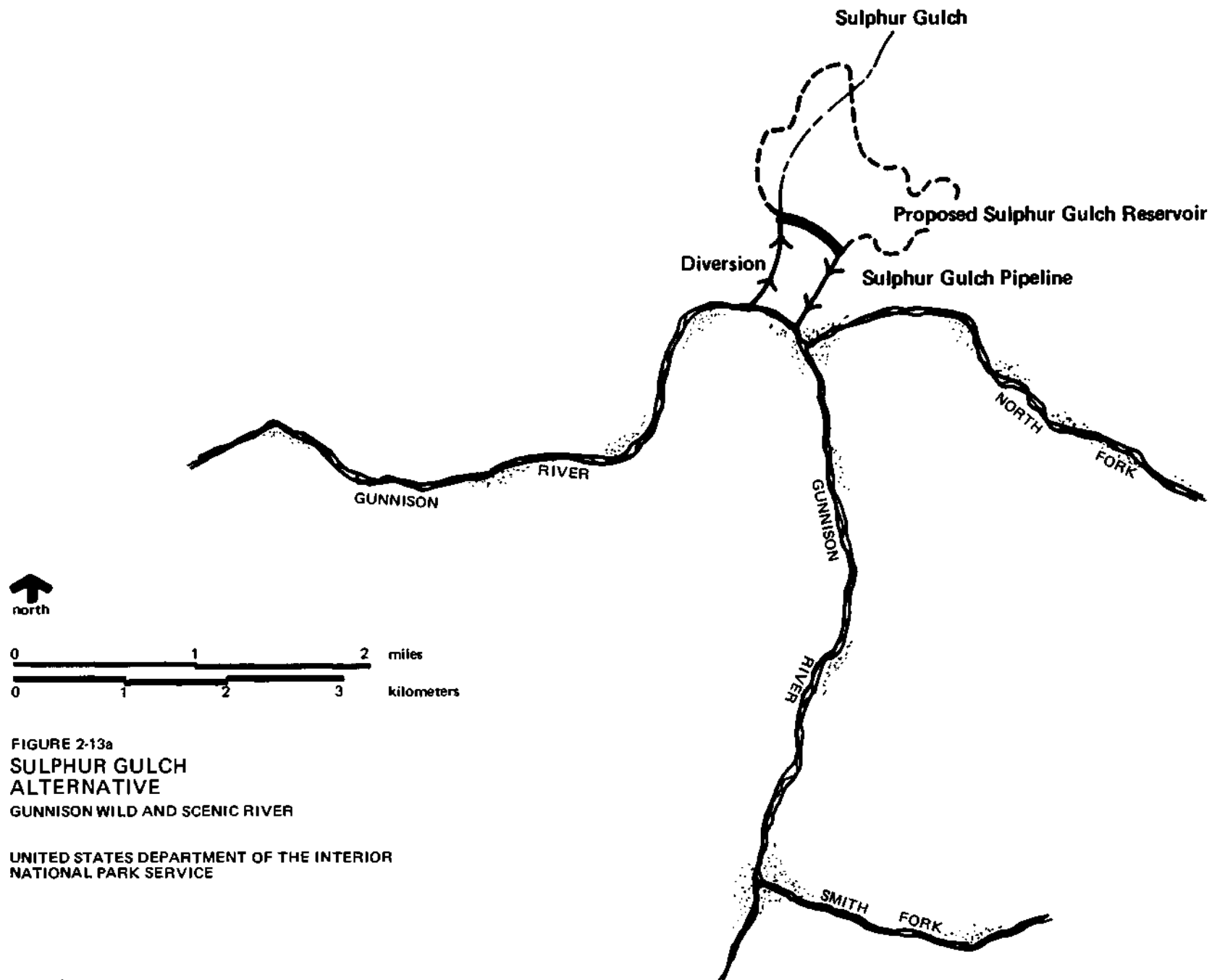


FIGURE 2-13a  
SULPHUR GULCH  
ALTERNATIVE  
GUNNISON WILD AND SCENIC RIVER

UNITED STATES DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE



proposed Smith Fork hydroelectric project. On August 1, 1978, FERC--over the objections of the Department of the Interior--issued a preliminary permit authorizing investigation of this proposal (see appendices A & B). The preliminary permit, however, does not authorize any construction activity.

In commenting on the preliminary application for the Smith Fork project the U.S. Department of the Interior insisted that a permit not be issued until details of the investigatory work to be undertaken are known and an assessment can be made of the resultant effects on the river study area (see appendix for the Department of the Interior's response to the City of Delta's preliminary application for the Smith Fork project). It was pointed out that "... the project would likely have a direct and adverse effect on the values for which the river might be designated" and "... that even the study of this project may jeopardize the area's unique values." The project also "... has the potential for causing serious adverse environmental impact to the fish and wildlife resources of the Black Canyon area of the Gunnison River," an area that "... serves as critical winter range for deer and elk and is a very important raptor area."

Other statements contained in the Department's comments on the Smith Fork project preliminary application addressed the fact that "Even if the Wild and Scenic River Study did not result in a designation of this segment of the Gunnison, our Bureau of Land Management has two additional obligations under the Federal Land Policy and Management Act of 1976. First, it would have to review the Gunnison Gorge Recreation Lands withdrawal for continuation of that land status. Second, BLM would have to review the same area as a potential wilderness if the recreation withdrawal were to be terminated, because it contains roadless areas of more than 5,000 acres."

Fruitland Mesa Project. The Bureau of Reclamation's authorized Fruitland Mesa Project would irrigate lands in Montrose and Delta counties, east of the study area. Return flows from the project would enter the river via Smith Fork and Crystal Creek in Red Canyon. While the return flows would carry relatively concentrated volumes of leached salts, the small total flow of these tributaries would be diluted by the Gunnison, without serious downstream effects on water quality.

### Fish and Wildlife

Within the study corridor fish and wildlife are relatively abundant and quite diverse. Five basic habitat types provide food and shelter for big game mammals such as elk and deer, small game mammals, furbearers, a host of nongame birds and mammals, and a

large number of game birds and waterfowl. Raptors are relatively abundant, and several species are represented. Various amphibians, reptiles, and several game and nongame fishes are also present.

The river segment provides excellent cold water game fish habitat, and an excellent trout fishery. Three species of game fish--rainbow, brown, and cutthroat trout--inhabit the river. Northern pike, brook trout, mackinaw trout, and kokanee salmon have also been reported, but they are uncommon. Other fish include four species of suckers, two or more hybrid sucker forms, roundtail chub, fathead minnow, sculpin, carp, and dace. Although fishing opportunities are limited by the wild, rough nature of the canyon and river, the fishery provides unique and satisfying angling.

The entire study area is critical winter range for mule deer and elk. Key winter browse species such as sage, mountain mahogany, oak, and bitterbrush are abundant and reveal heavy seasonal use.

Pinyon pine and juniper trees supply a minor amount of nutrition to big game, but function primarily as escape cover adjacent to feeding areas. Additionally, these areas host several species of wintering birds, including the endangered bald eagle.

In a recent survey by the Colorado Division of Wildlife, other raptor species found to be residents in the gorge were the golden eagle, red-tailed hawk, prairie falcon, kestrel, and turkey vulture. Nesting sites were found for golden eagles and prairie falcons, and it is believed that with more effort kestrel eyries would also have been found.

Endangered and Threatened Wildlife. The American peregrine falcon and bald eagle are the only species listed in the Federal Register as endangered that may be inhabiting the study segment. Although peregrine falcons were last seen in the monument segment of the study corridor in August, 1976, much of the canyon contains habitat that is ideally suited to this species. Falcon habitat in the gorge is also excellent from the monument downstream to approximately the Montrose-Delta county line and at intervals below this point wherever high cliffs exist. In addition, the ruggedness and inaccessibility of the gorge limits human disturbance. The monument is high on the list of potential peregrine reintroduction sites.

The river otter, sighted in July 1974 and again in August 1975, is included on the Colorado endangered species list. Six otters were planted within the study segment in August 1976 by the Colorado Division of Wildlife as part of a reintroduction program authorized in 1975. An additional eight otters were released into the outstanding habitat of the canyon in 1978.



Elusive bighorn sheep frequent the rugged canyon area.



Mule deer are occasionally seen in the canyon but are most common above the inner rim.

The greater sandhill crane and white pelican may stop over within the eligible segment for a brief period during their spring migration.

### Cultural Resources

A complete cultural resource inventory and evaluation has been carried out in the Black Canyon of the Gunnison National Monument and the Gunnison Gorge Recreation Lands by Breternitz (1973, 1974, and 1976) (unpublished); Carpenter and Stiger (1975); and Oliviera (1976) in accord with Executive Order 11593, the National Historic Preservation Act of 1966, and National Park Service historic preservation policies. Based on these recent surveys, many historic and archeologic sites were located, none of which is listed on the National Register of Historic Places. Also, there are no National Historic, Natural, or Environmental Education Landmarks in the study corridor.

Prehistory. Aboriginal settlement patterns indicate that the Black Canyon region was used by both prehistoric and historic Indians on a seasonal basis. Winters along the canyon rim are severe, so habitation was limited to temporary camps and tool production areas that were probably used during the spring, summer, and fall. Movement in this area was governed by the seasonal availability of edible vegetation and by the transitory movement of game. Many of the narrow points of land that jut into the canyon and have very steep sides may have been used as game traps, as is suggested by the presence of several isolated projectile points found on these prominences.

Remains of 38 campsites were discovered primarily on sandy soils. Only two above-ground archeological structures were identified. The remaining 36 sites give no indication of the depth of stratigraphy. All the sites located in the monument are on the canyon rim; none has been found in the river study corridor. Analysis by Stiger and Carpenter (1975) showed that 90 percent of the flakes collected from these sites were produced by soft hammer percussion and that some of the rock used for tool production was subject to heat treatment during preparation.

An archeological survey was conducted in the lower river study corridor through the Gunnison Gorge Recreation Lands in the summer of 1976 (Breternitz 1977). The results of this survey are not yet available.

History. Though the Gunnison River is named for Captain John W. Gunnison who explored the region in the early 1850's, he and others before him carefully avoided the inhospitable canyon. It was not until 1874 that the Middle Division of the Hayden Survey



skirted the length of the north rim, establishing several survey stations within what is now the monument.

Byron H. Bryant, in charge of construction for the Uncompahgre Extension of the Denver and Rio Grande Western Railroad, was requested to explore the Black Canyon for a possible railway route. Early in December of 1882, Bryant proceeded with a survey from Grizzly Gulch to Cimarron. Completed in the spring of 1883, it indicated the canyon was impractical for a railway line.

In September 1900 William W. Torrance assembled a group of five volunteers to survey the Black Canyon to determine if a water diversion would be feasible. Four weeks later they gave up after confronting what appeared to be impassable cascades.

Probably the most famous trip through the canyon was made by William W. Torrance and A. Lincoln Fellows, irrigation engineer and resident hydrographer of the U.S. Geological Survey at Montrose. The trip, which started on August 12, 1901, was an extremely rugged journey covering 33 miles (53 km) in 9 days. The data they accumulated made possible the construction of the Gunnison Tunnel which provides irrigation water for the Uncompahgre Valley.

After 1900 there was increasing recognition of the scenic value of the Black Canyon by local conservationists and civic leaders. In the late 1920's, citizens of Montrose, led by the Reverend Mark Warner, began efforts to have the canyon preserved. On March 2, 1933, a Presidential Proclamation established the Black Canyon of the Gunnison National Monument.

The Great Depression of the 1930's brought miners into the depths of the canyon. During the period from the 1940's to the early 1970's, there was limited use of the canyon for grazing, and cattle were driven through the lower end over the Ute Trail. Prospecting continued in parts of the Gunnison River canyon, excluding the monument segment. However, the silver and gold prospects were abandoned and replaced by uranium prospect pits along the west rim of the canyon and up the Smith Fork. Gypsum was mined along Buttermilk Ridge. These industries failed during the mid 1950's for lack of profits.

A historic structures survey carried out in the Black Canyon of the Gunnison National Monument in 1976 (Olivieri 1976) indicated that the majority of structures located here were built after the monument was established and possess little historical or architectural value. Structures located on the north rim, some dating from the early 1930's, include several utilitarian buildings constructed of frame and corrugated sheet metal, Quonset huts, and framed privies. Several frame and corrugated sheet metal utilitarian structures, trailer homes, and a simple frame and weatherboard structure, also dating from the early 1930's, are located on the south rim. None of these are located within the river's visual corridor.



Remnants of several historic sites are located in the gorge.

A recent preliminary field survey of the lower study segment through the gorge (Athearn 1976) recorded a number of historic sites, including the Ute Trail and eight cabins, three of which may qualify for inclusion on the National Register of Historic Places. These structures are generally no older than 30 or 40 years and represent limited use. Although there may be other historic values in the area, an additional survey will be needed to locate them.

### Recreation Resources

Throughout the study corridor there are a limited number of established recreation facilities, as shown in figure 2-14. The river itself is inaccessible except in a few areas. Aside from the monument segment, the river is not nationally known for its recreational values.

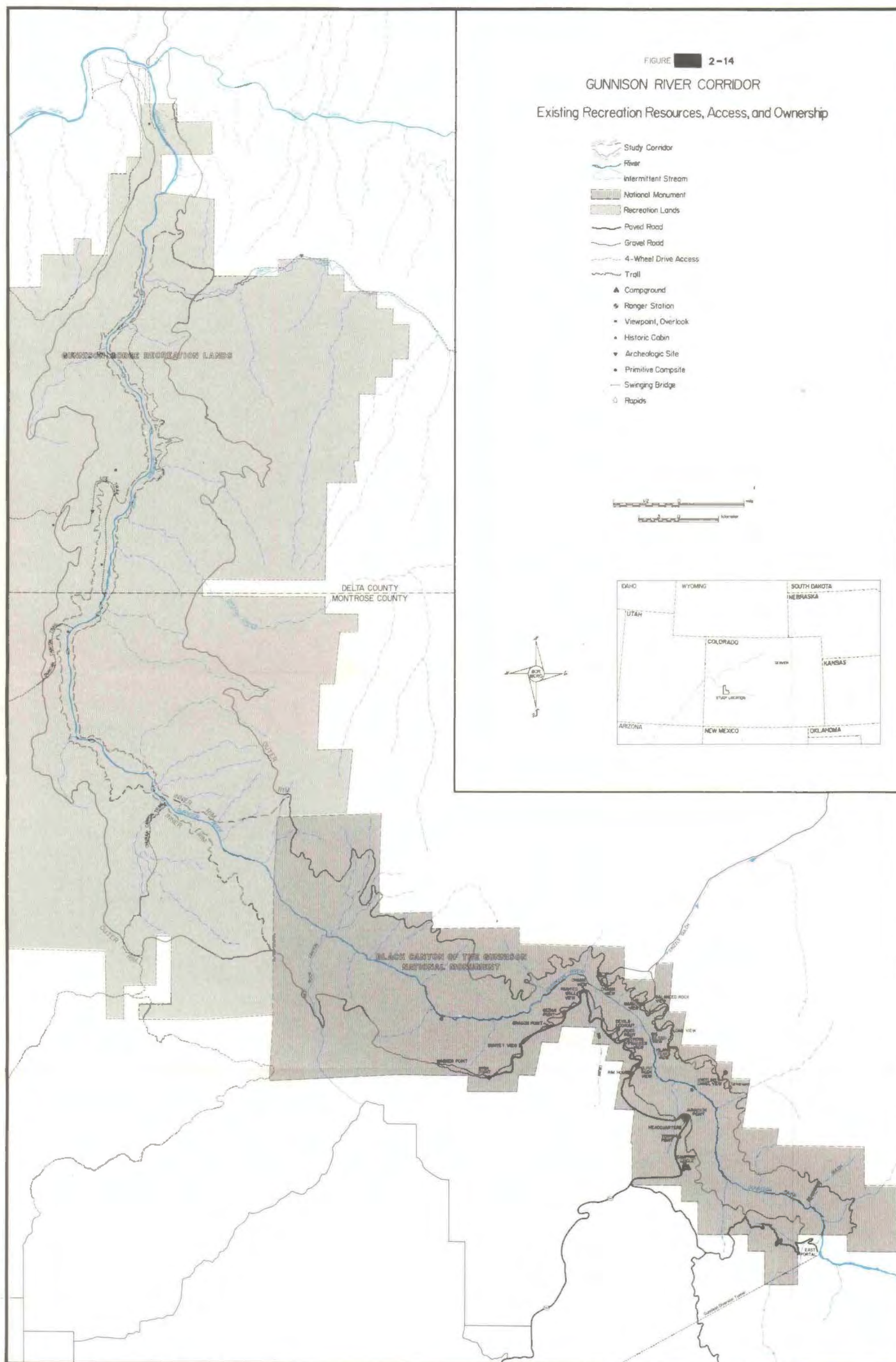
A major portion of the monument, including the study corridor, is now part of the National Wilderness Preservation System. Primitive camping for small groups of people is possible along the river at several locations. Because of the sheer vertical rise of the canyon walls, this use is limited to sandbars and other small, relatively flat areas.

River trips through the monument, which involve more scrambling over rocks and portaging than actual floating, are feasible for individuals with considerable experience. The 1-mile (1.6-km) segment between The Narrows and Chasm View is the wildest and most scenic in the entire canyon, but it is also the most arduous and hazardous.

Immediately downstream from the monument the gorge provides opportunities for hiking, fishing, rock collecting, whitewater river floating, and hunting for waterfowl and chukar. There are three existing trails here--the Chukar Canyon, Duncan, and Ute Trails.

The ruggedness and limited accessibility of the gorge have limited man's use, thereby preserving much of its wild character.

In the gorge, fishing and hiking represent the greatest amount of use as measured in visitor days. Fishing is confined mostly to the North Fork area and to the vicinity of the Ute, Duncan, and Chukar Canyon Trails where they meet the Gunnison River. Estimates of current use are given in table 2-7.





Large boulders and sheer canyon walls limit use of the river through the monument.

Fishing and related hiking use account for the greatest amount of visitation along the river.





Table 2-7

GUNNISON RIVER CORRIDOR  
Canyon Visitation (1975)

<u>Activity</u>	<u>Monument<sup>1</sup></u> (Visitor Days)	<u>Gorge<sup>2</sup></u>
Canyon viewing	349,872	2,450
Inner canyon hiking	2,276	600
Inner canyon camping	2,143	100
Technical rock climbing	32	-
Fishing	1,500	1,500
River floating	-	50
Hunting	-	100
<b>TOTALS</b>	<b>355,823</b>	<b>4,700</b>

<sup>1</sup> Actual Visitation

<sup>2</sup> Estimated Visitation

Most of the river through the gorge is outstanding for river floating using small rafts with oars, inflatable canoes, decked canoes, or kayaks. A challenging series of rapids exists in the 3-mile (5-km) reach above the Smith Fork with flows of approximately 400 cfs (10 m<sup>3</sup>/s). Below these rapids the river is essentially placid and lacks features which require great floating skills. The hike required to carry boats and other equipment to the river--about 1 mile (1.6 km)--tends to deter individuals in poor physical condition and to eliminate those with very heavy or large rafts. Also, depending on the boater's skill, some portages are required.

A flow of 400-600 cfs (10-20 m<sup>3</sup>/s) is optimal for river floating. With less flow the river is too rocky for easy boating, making portages frequent and laborious. Above 600 cfs (20 m<sup>3</sup>/s), landings become difficult and chances for a spill are increased. However, the river through the gorge has been run at a flow of 1,100 cfs (30 m<sup>3</sup>/s).

#### Access

Except at the extreme lower end of the corridor and at East Portal immediately upstream from the study area, there are no roads that



River floating provides many challenges in the gorge.



The Ute Trail provides river access in the gorge.

enter the canyon. As previously discussed, all access is by trail. Although there are unimproved jeep roads that parallel the outer canyon rim in the lower section of the river between the monument and the Smith Fork, these are not visible from the river and are otherwise inconspicuous to those within the visual corridor. Downstream from the Smith Fork, near the confluence of the North Fork, there are unimproved jeep roads on both sides of the river for varying distances. Because of their proximity to the river, these roads provide easy river access and are visible from it at various locations.

The Ute Trail, shown on figure 2-14, is the only improved trail providing river access in the entire 29-mile (47-km) study corridor. This trail and the Duncan and Chukar Canyon Trails are the usual access routes to the river in the gorge. There are no designated trails in the canyon within the monument, and those using the river must enter and leave at their own risk.

#### Land Ownership

In the monument the visual corridor averages about 0.9 miles (1.5 km) in width, and through the gorge segment, 0.8 miles (1.3 km). Within this visual corridor is an average of 580 acres per mile (15 ha/km) for the monument and an average of 402 acres per mile (101 ha/km) for the gorge. This represents a visual corridor with an overall average of 491 acres per mile (123 ha/km) for the entire 29-mile (47-km) study segment.

As shown in figure 2-14, almost all of the land within the study area, which includes that portion within the visual corridor, is administered by the National Park Service or the Bureau of Land Management. Only a very small amount of private agricultural land exists within this corridor, as table 2-8 reveals, and none is located in the eligible segment. Combined, the lands within the study corridor represent a very small fraction of the region's overall recreation acreage--256,000 acres (103,600 ha).

Table 2-8

GUNNISON RIVER CORRIDOR  
Land Ownership

<u>Ownership</u>	<u>Acres (Hectares)<sup>1</sup></u>	<u>Percent</u>
Federal:		
National Park Service	7,540 (3,051)	54
Bureau of Land Management (Public Lands)	6,073 (2,458)	43
Private	<u>366 (148)</u>	<u>3</u>
TOTAL	13,979 (5,657)	100

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<sup>1</sup> Estimate.

#### PROBABLE FUTURE ENVIRONMENT WITHOUT THE PROPOSAL

Current trends in land ownership are likely to continue should the Gunnison River and its immediate environment not be included in the National Wild and Scenic Rivers System. Approximately 97 percent of the land in the study area is federally owned, with the remainder in private ownership. Public lands administered by the Bureau of Land Management account for 43 percent of the total, while the National Park Service administers some 54 percent of the study corridor. All lands in the area proposed for designation are in Federal ownership. Conditions expected to prevail in the monument and gorge sections of the study area are described below.

#### Monument Segment

The use and management of the Black Canyon of the Gunnison National Monument will not change significantly unless national priorities demand that the affected resources be used for other purposes. The study area through the monument will continue to be administered under provisions of Presidential Proclamation No. 2033 and Public Law 94-567 to protect its outstanding recreational and wilderness values. Only those improvements that provide for visitor safety and protection of the environment will be allowed. According to the existing master plan for the monument, the canyon is to be preserved while some of the upland areas outside the visual corridor of the river will undergo limited development consistent with wilderness designation and protection of existing resource values.

Table 2-9 contains projections of recreation use expected to occur in the monument portion of the study corridor should the river not be designated as part of the National Wild and Scenic Rivers System. As a result of studies conducted by the National Park Service, overall use will be limited to no more than 750,000 visitor days per year to insure that associated inner canyon use will not exceed the area's carrying capacity.

Table 2-9

GUNNISON RIVER CORRIDOR  
Projected Canyon Visitation in Monument  
(Existing Management Conditions)

<u>Activity</u>	<u>1976</u>	<u>1990</u>
	(Visitor Days)	
Canyon viewing (overlooks)	379,000	630,000
Hiking	2,500	4,000
Camping	2,300	3,000 <sup>1</sup>
Rock climbing	150	300 <sup>1</sup>
Stream fishing	<u>1,600</u>	<u>2,000<sup>1</sup></u>
Visitation totals	385,550	639,300 <sup>1</sup>

<sup>1</sup> Subject to change, pending the establishment of management policies related to wilderness designation and stabilization of river flow.

Gorge Segment

As discussed in the section on "Water Resources Development," there are several proposals to utilize the river in the study area for hydropower and municipal/industrial water supply. Except for a combination of the City of Delta and Colorado-Ute projects, any two other projects are mutually exclusive because they overlap in their location on the river. Thus, it is likely that not more than one project could be developed. Even that possibility is questionable considering the presence of endangered plants and animals in the study corridor and the existence of feasible alternative reservoir sites outside the eligible river segment.



Other conditions that may prevent such development are the requirements that permission to construct a project of this type must first be granted by the Federal Energy Regulatory Commission and the Department of the Interior, on whose lands it would be located. Due to a lack of statutory authority, it is possible that the Secretary of the Interior could rescind all or part of Public Land Order No. 5261, which established the Gunnison Gorge Recreation Lands, in order to accommodate such a project. However, under provisions of the Federal Land Policy and Management Act (P.L. 94-579), the river canyon within the Gunnison Gorge Recreation Lands qualifies for study as a potential wilderness since it is roadless and contains more than 5,000 acres (2,023 ha). This area also is recognized as possessing outstandingly remarkable resource values that may qualify for protection under that act.

Provisions of the Endangered Species Act could possibly be invoked to protect outstanding wildlife values if other legislation proved ineffective in preventing their loss.

Because there are no known mineral reserves of economic importance in the gorge, mineral production is not expected to occur here in the foreseeable future. Although Public Land Order No. 5261 allows leasing under the mineral leasing laws, lack of suitable access to the canyon and inadequate transportation facilities further reduce the possibility that any significant mining will occur in the study area.

Based on BLM's preliminary management plan for the Gunnison Gorge Recreation Lands, only portable toilets and improvements to existing trails that insure public safety will be allowed in the canyon. All other recreation facility development is planned for the area above the outer canyon rims, beyond the visual corridor of the river. These proposed developments include improved roads, overlooks, parking spaces, picnic and camp areas, interpretive and sanitary facilities, and a visitor center. Where necessary, archeologic and historic site stabilization also will be undertaken. Public use easements will be acquired to insure access to the gorge over the Chukar Canyon Trail. Projections of visitation expected to occur in the gorge with such development appear in table 2-10.

Table 2-10

GUNNISON RIVER CORRIDOR  
Projected Canyon Visitation in Gorge  
(Existing Management Conditions)

<u>Activity</u>	<u>1976</u>	<u>1990</u>
	(Visitor Days)	
Stream Fishing	1,500	3,000 <sup>2</sup>
Hiking	600	1,250 <sup>1</sup>
Picnicking	400	5,000 <sup>1</sup>
Canyon Viewing (overlooks)	300	3,300 <sup>1</sup>
Camping	300	3,500 <sup>1</sup>
Hunting	100	100 <sup>1</sup>
Photography	100	500 <sup>1</sup>
Horseback Riding	75	400 <sup>1</sup>
River Floating	50	800 <sup>2</sup>
Geologic, Historic, Cultural Interpretation	<u>0</u>	<u>500<sup>1</sup></u>
Visitation Totals	3,425	18,550

<sup>1</sup>Subject to change, pending possible revisions in management policy to accommodate other uses.

<sup>2</sup>Until Crystal Dam flow releases are stabilized, visitation projections for this activity are subject to change.

Based on these conditions, it is anticipated that in the gorge below the monument the visual corridor of the river will continue to be devoted primarily to outdoor recreation use and preservation of natural resource values. Economic activities expected to occur near this part of the study area include continued development of coal resources and the development of new water resources projects to store or divert water for industrial and domestic purposes.

### III. ENVIRONMENTAL IMPACTS OF THE PROPOSED ACTION

Lands within the eligible river segment are already in Federal ownership and are being managed to protect and enhance the river's natural and recreational values. The monument segment is within designated wilderness and is managed in accordance with the provisions of the Wilderness Act. The act prohibits permanent roads and, with some exceptions for administrative purposes, temporary roads, motorized vehicles, structures, and installations which conflict with the area's pristine character. But the Wilderness Act does not prohibit water projects and ancillary facilities in designated wilderness. According to the National Park Service, however, under provisions of the Colorado River Storage Act of 1956 (70 Stat. 105, 107), dams and reservoirs authorized by that act must not encroach on national park or monument lands.

The gorge segment is within the Gunnison Gorge Recreation Lands withdrawn by Public Land Order No. 5261 to protect the area's beauty, integrity, and character. Inclusion of 26 miles (41.8 km) of the Gunnison River and 12,900 acres (5,200 ha) comprising its immediate environment in the National Wild and Scenic Rivers System will extend to the gorge statutory protection already afforded the monument segment, effectively preserving the river's free-flowing condition and existing natural values.

Since the eligible river segment is already subject to protective management, the principal impact of inclusion in the national system is to prohibit the construction of water resource development projects and other incompatible developments along the 26-mile (41.8-km) reach of river. Implementing the proposed action will also cause minor increases in recreation use and attendant visitor impacts over those expected to occur without designation.

#### IMPACT ON WATER RESOURCE DEVELOPMENT PROJECTS

Implementing the proposal will prohibit construction of any project which may diminish existing geologic, scenic, recreation, wildlife, and related values of the proposed area. Water development projects which may conflict with national designation have been proposed by the City of Delta, Pittsburg and Midway Coal Mining Company, and Colorado-Ute Electric Association.

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1. Figure 2-13 shows that the Cedar Flats and Smith Fork projects and Cedar Flats and Tri-County projects are mutually exclusive. Thus, the proposal could preclude only one or possibly two of the projects, but not all three.

City of Delta--The City of Delta's Smith Fork hydroelectric project calls for a dam, located about 1 mile (1.6 km) upstream from the confluence with the Smith Fork, and a 54,000 acre-foot (66.6 million m<sup>3</sup>) reservoir. The site is entirely within the Gunnison River proposal area, and the project would be precluded by wild river designation.

Delta also holds a conditional decree for the diversion of up to 50 cfs (1.4 m<sup>3</sup>/s) of water for domestic supply. The point of diversion, approximately 1.2 miles (2 km) upstream from the confluence with the Smith Fork, is located within the wild river proposal area, and it would have to be shifted outside the corridor.

Four alternative sources to augment Delta's existing municipal water supply were identified in an engineering report done for the city: two were completely independent of any Gunnison River diversion; the other two were situated on the Gunnison River, well outside the eligible segment, above Austin and near Delta--the latter considered the best long-range plan of the four alternatives.<sup>2</sup>

Pittsburg and Midway--Pittsburg and Midway Coal Mining Company's Cedar Flats hydroelectric/industrial water project calls for a dam, to be located outside the proposal area between the Smith Fork and North Fork, and a 162,700 acre-foot (200 million m<sup>3</sup>) reservoir which would inundate more than 90 percent of the eligible segment below the monument. The project would be precluded by wild river designation.

Colorado-Ute--The 72,650 acre-foot (90 million m<sup>3</sup>) reservoir associated with Colorado-Ute's Tri-County hydroelectric/industrial water project would extend upstream to the vicinity of the Smith Fork, inundating about 1 mile (1.6 km) of the eligible river segment in the lower study corridor. The proposed wild river designation will require modifying the Tri-County project so that its reservoir does not encroach on the wild river segment. If the project cannot be so modified, it would be precluded.

Prohibiting water resource development projects from the segment eligible for wild river designation will result in the loss of 36-50 MW of hydropower generation potential because stream gradient in the eligible stretch is much greater than downstream. In addition, the economic

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2. Engineering Report on the Municipal Water Supply for the City of Delta. Morcan Engineering, Denver, Colorado. March 1975.

impacts on the individual proponents of the projects are potentially significant. If these respective projects are not constructed, affected proponents would not be able to export power outside the region, nor would they be able to market water for municipal or industrial purposes. Since detailed plans for the projects have not been formulated, however, the opportunity cost foregone by not constructing the projects can only be approximated; it could approach \$50 million for facility construction and \$3.7 million in the value of annual power output.

An alternative water development project, located entirely outside the river corridor, has been formulated. As described in chapter II, the Sulphur Gulch alternative could make water and power available to the City of Delta while achieving the project's primary objective--making an estimated 100,000 acre-feet (123.3 million m<sup>3</sup>) of water available annually for coal-based energy development. Feasible coal-fired generation and water diversion sites are also potentially available outside the eligible segment. Generation at these sites could replace the amounts of hydropower that would have been generated by the projects. Since water and power alternatives exist outside the proposal area, the severity of regional impacts resulting from precluding water and power developments in the proposal area cannot be determined.

No impact on the Fruitland, Mesa Project is anticipated, since it lies out of the study corridor and its impact on water quality in the designated area would be insignificant.

#### IMPACT ON RECREATION

Overall use of the area is projected to be 663,970 visitor days in 1990, and 99 percent of this use is expected to occur even if the proposal is not implemented (see table 3-1). As shown on table 3-1, designation is not expected to affect visitation to the monument, but the number of visitor days in the gorge attributable to wild river designation will increase from an estimated 18,850 (under existing management) to 24,700 annually by 1990, primarily in the form of additional river floating, hiking into the canyon, and canyon viewing from the rims. Because individuals generally engage in several activities while visiting the area, the 6,120 increase in visitor days represents 1,640 additional visitors in the gorge (1,250 hikers and 390 floaters) and 2,560 viewing the canyon from the rim. The remaining 1,820 visitor days represent ancillary recreation use and not additional visitors.

The amount of potential activity within the canyon itself is limited by the natural inaccessibility of the area and, therefore, is expected to be compatible with the carrying capacity of the resources. Overall, the proposal will have a beneficial impact by precluding



water resource developments, and thus preserving freeflowing river values and attendant resource-based recreation opportunities.

Table 3-1

GUNNISON WILD RIVER PROPOSAL  
Projected 1990 Visitation in Visitor Days

River Segment	Activity	Projected Use Existing Management (1990)	Projected Use Wild River Proposal (1990)
Monument	Canyon viewing (rims)	630,000	630,000
	Hiking	4,000	4,000
	Camping	3,000	3,000
	Stream fishing	2,000	2,000
	Technical climbing	300	300
	Visitation Subtotals	639,300	639,300
Gorge	Stream fishing	3,000	3,500
	Hiking	1,250	2,500
	Picnicking	5,040	5,040
	Canyon viewing (rims)	3,360	5,920
	Camping	3,510	3,510
	Hunting	100	100
	Photography	540	1,500
	Horseback riding	400	400
	River floating	810	1,200
	Geologic, historic/cultural interpretation	540	1,000
	Visitation Subtotals	18,550	24,670
	VISITATION TOTALS	657,850	663,970

#### IMPACTS ON ENDANGERED SPECIES

It is recognized that significantly increased human activity in the canyon may potentially have an adverse effect on some animal species found in the river corridor. According to the U.S. Fish and Wildlife Service, however, projected visitation increases due to the proposed action will not adversely affect endangered species. In fact, wild river designation will preserve existing natural values.

The American peregrine falcon is very sensitive to human activity, but the small increase in visitation due to the proposal generally

would not conflict with the breeding and rearing seasons of this species. The Division of Wildlife has found that the river otter has been very tolerant of existing human use of the gorge segment.

The increase in visitor days due to wild river designation will not conflict with the otters' early spring breeding and rearing season and is not expected to adversely affect their successful reintroduction along the river. The greater sandhill crane and white pelican may be found in the lower eligible segment during their migration in the early spring; this coincides with a period of low visitation and the birds are not expected to be adversely impacted by the proposal.

Overall, there will be no significant impacts on any endangered fish or wildlife.

Gunnison rock cress (Arabis gunnisoniana), which has been proposed for endangered status, is known to occur either in the gorge or monument. As noted in chapter 2, other plants of the area have been recommended for listing in the Federal Register as "threatened" or are now classified as "sensitive" on the Colorado Native Plant Society list. Although these plants may occur within the proposal area, increased human activity is expected to have little or no impact on them.

## OTHER IMPACTS

The small increase in recreation use by 1990 (4,200 visitors accounting for 6,120 visitor days) resulting from inclusion of 26 miles (41.8 km) of the Gunnison River in the National Wild and Scenic Rivers System will cause minor increases in soil erosion and trampling of vegetation along the Ute, Duncan Canyon, and Chukar Canyon trails and at river access points; air pollution (exhaust and dust) from four-wheel-drive use outside the river corridor; and water pollution, littering, and potential vandalism in the gorge. There will also be a minor increase in the need for general policing and cleanup, search and rescue, and fire control activities, especially at the river access points and in remote areas along the shoreline. Because the same personnel and equipment will be needed to carry out existing management policies, no increased operation and maintenance cost will result from implementation of the proposal.

Further development of North Fork Valley (Somerset Field) coal resources would probably require such ancillary facilities as powerlines, pipelines, and water diversion structures, but neither the probability nor the scope of such an action can be accurately foretold at this time. These facilities would not be allowed in the river corridor if they would detract from the outstanding values of

the area, and this exclusion may potentially constitute an adverse economic impact. However, the severity of these hypothetical impacts, like the probability and scope of future regional coal development, is unknown.

Because of existing Federal land ownership and preservation management objectives, impacts of the proposal on all other resources--including land use, fishing, physiography, geology, minerals, and transportation--will be negligible.

#### IV. MITIGATING MEASURES INCLUDED IN THE PROPOSED ACTION

As specified in section 3(b) of the Wild and Scenic Rivers Act, a master plan will be completed after designation of the Gunnison River as a component of the National Wild and Scenic Rivers System. This plan will include, among other things, measures designed to mitigate adverse impacts, as discussed in this section.

Although the natural ruggedness and inaccessibility of the river will preclude extensive use of the area proposed for designation, managing agencies will monitor the effects of increased visitor use and, if necessary, will take measures to restrict the amount and type of recreation use to a level consistent with the carrying capacity of the affected resources. Should the need arise, limitations on the amount of use and restrictions on areas open to the public will be implemented to ensure the preservation of those values for which the river was designated.

In addition, four-wheel-drive roads within and outside the proposal area will be upgraded by the Bureau of Land Management under its existing management plan to mitigate dust problems created by the slight increase in vehicular traffic and to comply with established air quality standards.

Every effort will be made to protect the endangered American peregrine falcon, river otter, and associated habitats, as well as other important predatory species of wildlife. To accomplish this, human activity in the canyon may be curtailed during the critical breeding and rearing seasons of these species and certain areas of critical habitat will be identified and use of them restricted.

Portable toilets will be provided at trailheads and river access points to reduce the potential for water and land pollution. A "pack it in--pack it out" program will be implemented. Should this prove ineffective, the use of cans, bottles, and other nonburnable containers will be banned.

Outstanding scenic and geologic features will be identified and protected, as will known historical and archeological sites. All activities that affect cultural resources will be in compliance with Executive Order 11593 and regulations of the Advisory Council on Historic Preservation, according to "Procedures for the Protection of Historic and Cultural Properties" (36 CFR, Part 800). In all cases, damage caused by vandalism and natural deterioration will be mitigated by a combination of protection, interpretation, stabilization, and limitations on use.

## V. UNAVOIDABLE ADVERSE ENVIRONMENTAL IMPACTS

Designation of the 26-mile (41.8-km) eligible segment of the Gunnison River and its immediate environment as a component of the National Wild and Scenic Rivers System will cause certain unavoidable adverse environmental impacts. Although minor, these impacts will range from increased visitation and littering to loss of soil and vegetation in the gorge.

Although management policies will be implemented to protect endangered wildlife, the potential for adverse impact exists. However, since most human use will occur outside breeding and rearing seasons or at limited locations, adverse impacts are considered to be minor.

Additional problems of increasing litter and pollution of water and air, while greater than exist at this time, will be minor. Maintenance of the area will be improved and pollution due to human waste will be alleviated by the provision of portable toilets.

Water resource development projects proposed in the river corridor would be prohibited, as would any other projects or programs in the area that would diminish outstanding values within the eligible river segment. This may be considered an adverse effect on the human environment. However, as described in the study report, needs that would be served by such water project development can probably be met outside the river corridor.

Although historic and archeologic sites are already protected under existing Federal laws, a limited amount of vandalism and destruction of these sites will probably continue to occur.



## VI. RELATIONSHIP BETWEEN SHORT-TERM USE OF THE ENVIRONMENT AND LONG-TERM PRODUCTIVITY

Short-term use of the corridor for hydropower and associated features would be foregone unless Congress found it in the national interest to lift the designation of the Gunnison as a Wild and Scenic River. These cases would therefore be deferred rather than precluded.

The existing management policy in the monument now protects the river. In contrast, national designation of the Gunnison River in the gorge under the proposed action will enhance its long-term productivity for human enjoyment and ecological diversity. This long-term productivity will be ensured by the maintenance of a free-flowing river and preservation of its outstanding scenic, geologic, recreational, and wildlife values and other natural features for future generations.

## VII. IRREVERSIBLE OR IRRETRIEVABLE COMMITMENTS OF RESOURCES

Major physical changes or alterations to the existing environment are not contemplated with the proposed action. All use of natural resources in the proposed Gunnison River corridor would be committed to preserving the river in its free-flowing condition and maintaining its high water quality. In addition, the proposal would preserve natural, historic, and cultural values and the immediate river environment.

Designation as a wild river, however, does not constitute an irreversible or irretrievable commitment of resources. Should future national emergencies and priorities dictate the need to reverse these management objectives, this could be accomplished by Congress.

## VIII. ALTERNATIVES TO THE PROPOSED ACTION

In addition to the proposed action, several alternatives for preserving the natural resource values in the Gunnison River corridor have been considered. These alternatives include (1) continuing the existing management of the area (no action), and (2) designating the river as part of the national system under a less restrictive river classification, i.e., scenic or recreational.

Regardless of the alternative chosen, the eligible river segment, which extends from the upstream boundary of the monument to about 1 mile (1.6 km) below the Smith Fork, would remain in Federal ownership. Since management and use of the river through the monument will remain basically the same for any alternative considered, the following discussion will focus primarily on impacts in the gorge below the monument. Impacts expected to occur within the monument portion of the eligible river segment, as presented in chapter III, would be the same as for the following alternatives.

### EXISTING MANAGEMENT ALTERNATIVE (NO ACTION)

Under this alternative, the 12.7 miles (20 km) of the Gunnison River in the monument and the 13.5 miles (22 km) in the gorge would not be designated as a wild river, nor would they be included in the National Wild and Scenic Rivers System under less restrictive classification. Since the monument segment is currently protected as a wilderness area (P.L. 94-567), its future management would not be affected. As discussed in chapter I, the existing BLM management plan calls for upgrading river access within the gorge to provide for public safety. Public use easements will also be acquired outside the proposal corridor in the Gunnison Gorge Recreation Lands to assure access to the Chukar Canyon Trail. Except as noted below, impacts of the "No Action" alternative would be the same as with the proposal.

#### Impacts on Water Resources

Even though the gorge has been administratively designated by Public Land Order (P.L.O.) number 5261 for recreation use, there is no statutory assurance that it will continue to be managed to protect existing free-flowing river qualities. Depending on local needs and political pressures, the existing land order would be easier to revoke than Congressional wild river designation provided by the Wild and Scenic Rivers Act (P.L. 90-542, as amended). Revocation of P.L.O. No. 5260 requires only the signature of the Secretary of the Interior or his designee, but revocation of national river designation would require an amendment to the act.

It is highly probable that impacts of the "No Action" alternative on water resources will be the same as the proposed action, but for different reasons. Although P.L.O. No. 5261 lacks the statutory authority of P.L. 90-542, other legislative, Congressional, and Presidential mandates may preclude construction of proposed water development projects in the gorge. Included among these mandates are the Public Land Policy and Management Act, Endangered Species Act, and the requirement that approval for construction of such projects must first be obtained from the Federal Energy Regulatory Commission as well as the Bureau of Land Management which administers the affected lands.

#### Impacts on Recreation

Under existing management, increases in recreational use will be about the same as with the wild river proposal (see table 8-1). The primary difference would be in the amount of visitation in the gorge. The difference of about 6,100 fewer visitor days annually in 1990 without the proposal represents only 1 percent of total canyon use under either plan and would not adversely affect existing values.

#### Other Impacts

Since the river and adjacent lands already are recognized for their recreation values, air quality standards established for the region reflect the need to maintain clean air in the vicinity of the monument and gorge. Any activities conducted in the area, including the use outside the visual corridor of off-road vehicles (ORVs), which create dust and contribute minor amounts of hydrocarbons to the atmosphere, will be regulated to comply with these standards. Thus, the existing management plan will comply with established State and Federal air quality standards.

#### CLASSIFICATION OPTIONS

Alternative means of resource allocation involving trade-offs between environmental enhancement and resource development were considered. These alternatives reflect "discretionary" changes in classification of the eligible gorge segment below the monument from "wild" to "scenic" or from "wild" to "recreational." All impacts are the same as for the proposed action, except as noted in the following discussion.

TABLE 8-1  
ALTERNATIVE PLAN VISITATION PROJECTIONS

River Segment Activity	ALTERNATIVES									
	Present Use <sup>1</sup>		Proposed Action		Existing Management (No Action)		Classification Options <sup>2</sup>			
	1976		1980		1990		Scenic Option		Recreation Option	
	Visitor Days	% of Total	Visitor Days	% of Total	Visitor Days	% of Total	Visitor Days	% of Total	Visitor Days	% of Total
Monument (See Table III-1)										
Visitation Subtotals:	385,550	99	639,300	96	639,300	97	639,300	92	639,300	80
Gorge										
Stream Fishing	1,500	1	3,500	1	3,000	1	4,000	1	5,000	1
Hiking	600	1	2,500	1	1,250	1	5,000	1	20,000	1
Picnicking	400	1	5,040	1	5,040	1	7,200	1	13,320	2
Canyon Viewing (rims)	300	1	5,920	1	3,380	1	24,000	3	91,400	12
Camping	300	1	3,510	1	3,510	1	4,050	1	7,830	1
Hunting	100	1	100	1	100	1	100	1	100	1
Photography	100	1	1,500	1	540	1	2,700	1	7,200	1
Horseback Riding	75	1	400	1	400	1	400	1	400	1
River Floating	50	1	1,200	1	810	1	2,430	1	4,050	1
Geologic, Historic, & Cultural Interpretation	0	-	1,000	1	540	1	2,700	1	7,200	1
Visitation Subtotals	3,425	1	24,670	4	18,550	3	52,580	8	156,500	20
Visitation Totals:	388,975	100%	663,970	100%	657,850	100%	691,880	100%	795,800	100%

1. Estimates based on National Park Service and Bureau of Land Management data.

2. With either classification alternative, the river would be designated "wild" in the monument and "scenic" or "recreational" in the gorge.



### Scenic River Option

This alternative is identical to the proposed action, except that the 13.5-mile (21.7-km) eligible river segment in the gorge would be classified "scenic" instead of "wild" (see figure 1-1). The primary difference between this alternative and the proposal would be an increase in recreation use due to facility expansion and a greater emphasis on public access to the area's scenic attributes.

Impacts on Recreation. By 1990 there would be approximately 28,000 more visitor days of use annually with scenic river classification compared with the wild river proposal. This amounts to about a 3-1/4 percent annual increase in use throughout the eligible river segment. As with the proposal, canyon viewing would remain the dominant activity, accounting for about 95 percent of total visitation.

This increased recreation use would result in a doubling of annual operation and maintenance costs over the existing management plan, from \$25,180 to \$50,360. Generally, the higher level of recreation use would still be within tolerable limits to provide a quality recreation experience, but there would be a diminution of the existing pristine wilderness-type atmosphere.

Impacts on Endangered Species. Due to increased human activity in the gorge, there would be greater impacts on the endangered American peregrine falcon and river otter. This activity would likely cause some of the falcons and otters, as well as other species, to leave the area over a period of time, depending on the extent of human interference. Thus, this alternative would likely cause some serious impacts on wildlife.

### Other Impacts

Due to increased visitation, there would be additional trampling of vegetation, soil erosion, littering, dust and exhaust from four-wheel-drive vehicles, facility development outside the visual river corridor, and vandalism. However, all of these impacts are considered to be within the limits of the area's carrying capacity.

### Recreational River Option

The primary difference between this alternative and the proposed action is that the 13.5-mile (21.7-km) eligible river segment in the gorge would be classified "recreational" instead of "wild" (see figure 1-1). As a consequence of expanded facilities, improved access, increased signing, and construction of a visitor center, there would be an estimated 156,500 visitor days of use in the

gorge in 1990, compared to some 25,000 under the "wild" designation. Effects of this increased visitation would be more intensive than for any of the previously described alternatives and, except as noted in the following paragraphs, would have impacts similar to those of the scenic river option.

Impacts on Water Resources. There would be some reduction in water quality due to increased problems with human waste disposal and soil erosion in the gorge. This would necessitate the provision of portable toilets at strategic locations, both inside and outside the visual corridor, and the improvement of roads and trails to help reduce these problems. Overall, water quality would be maintained within acceptable limits for body contact recreation.

Impacts on Recreation. Under the recreational river option, visitation in the gorge would be more than six times greater than with the "wild" proposal, reaching 156,500 visitor days by 1990 (see table 8-1). To accommodate this use, operation and maintenance costs would exceed \$110,000 annually, more than four times as much as required by existing management or by the proposal. Recreational facilities within the Gunnison Gorge Recreation Lands would be expanded to include more improved roads, additional signs, and a visitor center outside the visual corridor. As a result, wilderness qualities would be considerably diminished by providing opportunities for a greater number of people to use the area.

Impacts on Endangered Species. According to the U.S. Fish and Wildlife Service, added pressure induced by human disturbance would be critical for some species of wildlife, threatening their continued utilization of natural habitat. This is especially true for such species as the endangered American peregrine falcon and river otter, as well as prey species on which they depend for survival.

## IX. CONSULTATION AND COORDINATION

### DEVELOPMENT OF THE PROPOSAL AND ENVIRONMENTAL STATEMENT

An interagency study team was formed in January 1976 to conduct the study and prepare a report and environmental statement. Study team agencies consisted of the Bureau of Outdoor Recreation (now the Heritage Conservation and Recreation Service), Colorado Department of Natural Resources (Colorado Water Conservation Board), National Park Service, Bureau of Land Management, and the U.S. Fish and Wildlife Service. The Bureau of Outdoor Recreation/Heritage Conservation and Recreation Service (BOR/HCRS) and the Colorado Department of Natural Resources were study co-leaders. As a result of a reorganization within the Department of the Interior, responsibility for this study was transferred from BOR/HCRS to the National Park Service on March 27, 1978.

Assisting in the study was a work group which was comprised of study team as well as other Federal and Colorado State agencies with special expertise in various subjects treated in the report and statement. Agencies other than those already mentioned that participated as members of the work group included:

#### Federal Agencies

Bureau of Mines

Bureau of Reclamation

Energy Research and Development Administration (now part of the Department of Energy)

Soil Conservation Service

U.S. Forest Service

U.S. Geological Survey

#### State of Colorado Agencies

Department of Health

Division of Planning

Division of Parks and Recreation

Division of Wildlife

State Forest Service

State Geological Survey

Highway Department

State Historical Society

Because of their interest in water resource development and other projects involving the study area, representatives of private industry were invited to contribute information to the study. Special meetings for this purpose were held in Delta, Colorado, in August and September of 1976. Those participating included:

Colorado Mining Association  
S.J. Groves and Sons Company  
Utah International  
Bear Coal Company  
Mayor, City of Delta  
Adolph Coors Company  
Gulf Corporation  
Colorado Westmoreland  
Sunflower Energy Corporation  
G.H. Allen  
Colorado-Ute Electric Association  
Atlantic-Richfield Corporation  
U.S. Steel Company  
West Slope Carbon, Inc.

Three series of public meetings were conducted to obtain citizen input to the study. These meetings were held in the communities of Hotchkiss, Delta, Montrose, Grand Junction, and Denver. Both oral and written comments were solicited from the public at these meetings and used to aid the study team in making their decisions and recommendations.

The first series of public meetings was held March 15-18 and 29, 1976, to inform the public about the study and its purpose, scope, and organization. Individuals identified as auditor/consultants were elected by attendees to represent public views throughout the study process. A second series of public meetings was held September 13-16 and 22, 1976, to present various management alternatives to possible national designation of the river. The third and last series of public meetings was conducted January 31 and February 1-3 and 9, 1977, to explain findings of the Principles and Standards (socio-economic) analysis undertaken for the study and to present the study team recommendation concerning the selection of the proposed action, as covered in chapter I.

Field reconnaissance of the study area was conducted from May 18-20, 1976. During this time, the five-man study team examined the entire river study segment by helicopter and on foot. In addition, auditor/consultants, work group members, representatives of private industry, and interested organizations were invited to participate in a ground reconnaissance of the areas so that they might also become familiar with resource values in determining river eligibility and classification.

Although close coordination and consultation has been maintained with all concerned interests in developing the study report and environmental statement, the conclusions and recommendations of the study are those of the interagency study team.

## COORDINATION IN THE REVIEW OF THE ENVIRONMENTAL STATEMENT

Copies of the draft environmental statement (DES) for the Gunnison Wild and Scenic River study have been made available for review and comment to the following agencies and organizations. Additional copies of the DES were made available for public review at local BLM offices, libraries, and similar locations.

### Federal Agencies:

Advisory Council on Historic Preservation  
Department of Agriculture  
    Soil Conservation Service  
    U.S. Forest Service  
Department of the Army, Corps of Engineers  
Department of Commerce  
Environmental Protection Agency  
Department of Energy  
    Federal Energy Regulatory Commission  
Department of Health, Education and Welfare  
Department of Housing and Urban Development  
Department of Transportation  
Department of the Interior  
    Bureau of Land Management  
    Fish and Wildlife Service  
    Heritage Conservation and Recreation Service  
    Bureau of Indian Affairs  
    Geological Survey  
    Bureau of Reclamation  
    Bureau of Mines

### State Agencies:

Review and comment on the report and statement was coordinated for all concerned State agencies through the Colorado Division of Planning (Colorado Clearinghouse). In addition, areawide clearinghouses that assisted with the review process included:

San Luis Valley Council of Governments  
District 10 Regional Planning Commission  
Colorado West Council of Governments.

## COMMENTS

## RESPONSES

**TENNESSEE VALLEY AUTHORITY**  
MEMPHIS, TENNESSEE 37828

April 26, 1979

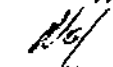
Mr. Dwight F. Bettie, Chief  
Office of Park Planning and  
Environmental Quality  
National Park Service  
United States Department of the Interior  
Washington, DC 20240

Dear Mr. Bettie:

DRAFT ENVIRONMENTAL IMPACT STATEMENT - CUMMISON RIVER

Thank you for giving us the opportunity to review the  
subject draft EIS. We have no comments or suggested  
changes.

Sincerely,

  
Maxwell D. Ramsey  
Recreation Program Coordinator  
Recreation Resources Branch  
Division of Land and Forest Resources

COMMENTS RECEIVED FOLLOWING REVIEW OF  
THE DRAFT STATEMENT AND RESPONSES



## COMMENTS



### United States Department of the Interior

FISH AND WILDLIFE SERVICE  
WASHINGTON, D.C. 20240

ADDRESS ONLY THE DIRECTOR,  
FISH AND WILDLIFE SERVICE

In Reply Refer To:  
FWS/ES  
DES 79-14

#### Memorandum

To: Director, National Park Service  
From: Director, Fish and Wildlife Service  
Subject: Gunnison River (Colorado) Wild and Scenic River Study—Comment  
on Draft Environmental Statement

In response to the memorandum from the Acting Chief, Office of Park Planning and Environmental Quality, we have reviewed the subject environmental statement and offer the following comment.

- 1 On pages II-65 and III-5, it is stated that Arabis gunnisoniana has been listed as an Endangered species. It has been proposed for such listing, but the proposal has not been finalized. Should it be finalized, we would not expect the species to be adversely affected by inclusion of the Gunnison River segment, as recommended, in the Wild and Scenic Rivers System. On page III-5 the name of this plant is misspelled.

We appreciate the opportunity to comment on this environmental statement.

*H. J. Olds, Jr.*

## RESPONSES

- 1 This correction has been made.

## COMMENTS



### United States Department of the Interior

GEOLOGICAL SURVEY  
RESTON, VA. 22092

In Reply Refer To:  
BGS-Mail Stop 441


May 1, 1979

#### Memorandum

To: Chief, Office of Park Planning & Environmental Quality, NPS  
From: Assistant Chief Hydrologist for Operations  
Subject: Review of draft statement, Gunnison Wild and Scenic River Study

Personnel in our Colorado Water Resources Division District Office have reviewed the draft statement and offer the following comments:

- 1 "We have reviewed the sections of the subject draft dealing with hydrology and have found these sections in good order. We did notice that the 1974 Water Resources State Report was used for flow statistics on the Gunnison River below the tunnel. Those additional years of record should have been available at the time the report was being prepared."

  
Thomas J. Buchanan

## RESPONSES

- 1 We have revised the flow figures using 1977 data, the most recent available.



One Hundred Years of Earth Science in the Public Service

## COMMENTS



IN REPLY REFER TO:  
DES 79-14

### United States Department of the Interior

HERITAGE CONSERVATION AND RECREATION SERVICE  
WASHINGTON, D.C. 20240

JUN 6 1979

#### Memorandum

To: Regional Director, National Park Service,  
Denver, Colorado

From: Director, Heritage Conservation and Recreation  
Service

Subject: Draft Environmental Statement - Gunnison Wild  
and Scenic River

The subject document adequately addresses the environmental  
concerns of this agency.

*Harold Green*  
For Chris Therrel Dalaports

## RESPONSES

## COMMENTS



IN REPLY REFER TO:

Trust Services  
Wildlife and Parks  
459

## United States Department of the Interior

BUREAU OF INDIAN AFFAIRS  
WASHINGTON, D. C. 20245

## RESPONSES

### Memorandum

To: Chief, Office of Park Planning and Environmental  
Quality (NPS)

From: Acting Director, Office of Trust Responsibilities

Subject: Draft Environmental Impact Statement - Gunnison River

This is in response to your March 29 memorandum, file reference: 17617(130), that requested our review and comment on the subject document.

Please note that our November 11, 1977 memorandum, in reply to your October 19, 1977 request, states that we are of the opinion that our trust responsibilities will not be involved in the Gunnison Wild and Scenic River, Colorado, designation. Following our cursory review of the subject document, our opinion has not changed. We offer no further comment at this time. Thank you for providing us with the opportunity to review the DEIS - Gunnison River.

## COMMENTS

OFFICE OF THE DIRECTOR



### United States Department of the Interior

BUREAU OF MINES  
2401 E STREET, NW.  
WASHINGTON, D.C. 20241

April 24, 1979

#### Memorandum

To: Chief, Office of Park Planning and Environmental Quality,  
National Park Service

From: Acting Chief, Office of Environmental Coordination

Subject: Draft environmental statement, Wild and Scenic River Study,  
Gunnison River, Colorado

The document discusses a 26-mile segment of the Gunnison River and 12,900 adjacent acres in Delta and Montrose Counties, Colorado, for inclusion in the National Wild and Scenic Rivers System. Minerals known to occur in the proposed corridor include gypsum, gold, and possibly fluorite.

- 1 The environmental statement mentions the mineral resources in the area, excluding gold, and states that there are no known commercial deposits. We agree with that statement; however, the gold occurrence in the river gravels should be mentioned in the mineral resources section on pages II-1 and II-54.

  
David M. Kopchan

## RESPONSES

- 1 The paragraph on page II-1 was not modified since gold is a precious metal. The suggested correction on page II-54 was made.



## COMMENTS



IN REPLY  
REFER TO:  
DC-150  
120.1

### United States Department of the Interior

BUREAU OF RECLAMATION  
UPPER COLORADO REGIONAL OFFICE  
P.O. BOX 11366  
SALT LAKE CITY, UTAH 84147

MAY 4 1979

#### Memorandum

To: National Park Service, 655 Parfet Street, P.O.  
Denver, CO 80225

From: Regional Director

Subject: Review of Draft Environmental Statement for the Gunnison  
River Wild and Scenic River Study

- 1 The report is a well-written document and presents impacts of the proposed action adequately. The action should not affect any potential Reclamation Projects although the report fails to address the Fruitland Mesa Project. Under potential water resource projects, the Fruitland Mesa Project should be addressed. This authorized project would not impound the Gunnison River but it would irrigate lands in Montrose and Delta Counties east of the Gunnison River. Return flows would enter the river in the study area by way of the Smith Fork and Crystal Creek (Red Canyon). The Fruitland Mesa Final Environmental Statement contains a description of these return flows (FES-77-10, page C-12). The effect of the proposed designation on the Fruitland Mesa Project needs to be addressed.

#### Specific comments:

- 2 Page 1-3: What are the "aesthetic and public use easements" required outside the river corridor? How will these easements affect the quality of the area and what are the impacts of these easements on landowners?

Page 1-11: Public Law 84-485 is stated to be the statutory basis prohibiting downstream water resource development projects from encroaching on lands within Black Canyon of the Gunnison National Monument. This law would only apply to Colorado River Storage Act projects, none of which are proposed in the study area. Private reservoir developments are not covered by this law.

- 3
- 4 Page 11-18: The statement that "valley floors below 6,000 feet in elevation are predominantly agricultural and are of marginal value to wildlife" should be qualified. These lands are valuable to non-game species, small game, and in many cases wintering deer and elk.



## RESPONSES

- 1 The suggested changes have been made in chapter II, under "Water Resources"(in both the "Regional Setting" and "River Corridor Setting" sections), and in chapter III, under "Impacts on Water Resource Development Projects."
- 2 The easements are for access to trailheads. Their impacts will be assessed by the Bureau of Land Management when definite plans for acquiring them are made. This item is addressed in the FES under "Bureau of Land Management Framework Plan," in the section titled "Interrelation With Other Programs," Chapter I (page 1-9 of the DES).
- 3 This correction has been made.
- 4 A correction has been made, but the statement has been qualified so as to narrow the reference to "natural vegetation." While these lands are in some cases of value to deer and elk in severe winters, the animals cause increased damage claims for the Colorado Division of Wildlife, and therefore any benefits are negated.



## COMMENTS

- 5 Page II-25: The Uncompahgre River is not a well known float stream. It is a very marginal float stream. The Taylor River is not free-flowing.
- 6 Page II-68: The first paragraph is correct in that minimum flows are expected to be around 200 cfs. However, average flows will be greater and therefore, the words "... or 144,800 acre feet ..." should be deleted.
- 7 Page II-71: The City of Delta's conditional decree for 30 cfs is discussed. An alternative diversion is discussed using existing canals near Austin. The practicality of using this alternative in the winter should be considered. Also, the differences in water quality at Austin as compared to the study area should be pointed out. Austin is downstream from the confluence of the North Fork, which contributes considerable sediment.
- 8 Page II-75: The statement is made that the Colorado squawfish and humpback sucker no longer inhabit the study segment because of fluctuation in upstream water releases from the Curecanti Unit which do not coincide with natural flows. The study segment probably never represented habitat for these species. William T. Wiltzius, 1978 report entitled Some Factors Historically Affecting the Distribution and Abundance of Fishes in the Gunnison River, Colorado Division of Wildlife, indicated that no reports of the Colorado squawfish upstream from Delta are known. Wiltzius also indicated that the "Curecanti Unit was in no way responsible for the rapid historical decline of humpback suckers in the Gunnison River" primarily because the decline occurred prior to the Curecanti Unit.
- 9 Page V-1: One of the unavoidable adverse environmental impacts of the project is that water resource development proposed in the river corridor would be prohibited. It is then indicated that most of the purposes of these projects can be satisfied outside the river corridor. This may or may not be true but a solid case for this conclusion is lacking in the report.
- 10 The potential for over-use of the area by recreationists attracted to a "wild" river is very real and should be addressed. Potential restrictions on game management, particularly hunting, should be considered under this section also.

*Wiltzius*

## RESPONSES

- 5 This correction has been made.
- 6 The deletion has been made.
- 7 The paragraph in question has been modified to explain that Delta will be diverting their water from a point just above the study area, and then taking it through the Gunnison Tunnel. References to the Austin area diversion have been deleted.
- 8 While the Fish and Wildlife Service, Salt Lake City, disagrees with the latter statement attributed to Mr. Wiltzius, reference to the endangered fish formerly inhabiting the study segment has been deleted.
- 9 The paragraph has been rewritten.
- 10 Given the difficulties of access to the area and current management strategies (low intensity, dispersed use) developed by the BLM, overuse by recreationists was not considered a problem. If it becomes a problem, it will be addressed in management plans for the area.

## COMMENTS



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
OFFICE OF THE SOLICITOR  
WASHINGTON, D.C. 20240

MAY 2 1979

### Memorandum

To: Chief, Office of Park Planning and Environmental Quality

From: Assistant Solicitor, Parks and Recreation

Subject: Draft Environmental Impact Statement - Gunnison River

We have reviewed the subject Draft EIS, and in our view it  
meets the statutory requirements.

A handwritten signature in black ink, appearing to read "David A. Matts", is written over a horizontal line.

David A. Matts

## RESPONSES

## COMMENTS



### Department of Local Affairs Colorado Division of Planning

Philip H. Schmuck, Director



Richard D. Lamm, Governor

May 15, 1979

## RESPONSES

Ms. Karen L. Green  
Office of Communications and Public Affairs  
Rocky Mountain Region  
National Park Service  
655 Perpet Street  
P. O. Box 25287  
Denver, Colorado 80225

SUBJECT: Draft Environmental Statement  
Gunnison Wild and Scenic River Study  
DES-79-14

Dear Ms. Green:

The Colorado Clearinghouse has received the above-referenced Draft Environmental Statement and has distributed it to interested state agencies. Comments received from State Historic Preservation Officer, Department of Health, Division of Parks and Outdoor Recreation, Colorado Geological Survey and Division of Wildlife are enclosed for your information.

Thank you for the opportunity to review this matter.

Sincerely,

  
Stephen O. Ellis  
Chief Planner

SE/MK/wc  
Enclosure

cc: Office of the Governor  
Department of Natural Resources  
Colorado Historical Society  
Department of Health  
District 10 Regional Planning Commission

## COMMENTS

STATE OF COLORADO  
Richard D. Lamm, Governor  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF WILDLIFE  
Jack R. Grieb, Director  
8080 Broadway  
Denver, Colorado 80216 (625-1182)



May 15, 1979

TO: Steve Ellis  
State Clearinghouse

FROM: Don Smith  
Wildlife Program Specialist

SUBJECT: Gunnison River - Draft Environmental Statement - Wild  
and Scenic River Study

1 This Division has reviewed the subject document and supports the proposal to include the Gunnison River in the National Wild and Scenic Rivers Systems as a wild river. We are disappointed in the decision to exclude the 2.7 mile segment below the Smith Fork because we feel it is eligible and could be classified as recreational. The draft report is well written and most of our previous comments have been incorporated. However, we do have several additional comments.

2 Page II-75 Endangered and Threatened Wildlife. Our information indicates the last sighting of a peregrine falcon in the Monument was in August, 1976.

3 An additional eight river otter were transplanted by the DOW in the study segment in 1978.

Page II-84, Table 2-7 - Add hunting to the list of activities and 100 visitor days under Gorge.

DGS:djh

cc: Harris Sherman  
Jack Grieb  
Bob Evans  
Wayne Sandfort  
Bob Rosette  
Rick Sherman  
Jim Houston  
Dan Miller

DEPARTMENT OF NATURAL RESOURCES, Harris Sherman, Executive Director • WILDLIFE COMMISSION, Sam Caudill, Chairman

## RESPONSES

1 The study team's unanimous finding was that the 2.7-mile reach lacked outstandingly remarkable values and was therefore ineligible. See response to Colorado Wilderness Network.

2 We have incorporated this information.

3 This change has been made.

## COMMENTS

## RESPONSES



### COLORADO HISTORICAL SOCIETY

The Colorado Heritage Center 1300 Broadway Denver, Colorado 80203  
May 10, 1979

Stephen O. Ellis  
Colorado Clearinghouse  
520 State Centennial Building  
1313 Sherman Street  
Denver, Colorado 80203

Dear Mr. Ellis:

This is to acknowledge receipt of Gunnison Wild and Scenic River  
Study, draft environmental statement, #79-107 (NPS)

DATE RECEIVED April 6, 1979 DATE DUE May 14, 1979

We find Cultural Resources have been adequately considered and meet the goals and objectives of the National Historic Preservation Act et alia and those of this Office.

Thank you for the opportunity to comment on the proposed project.

If this Office can be of further assistance, please do not hesitate to call upon ES Reviewer Betty LeFree (Office of the State Archeologist) at 839-3391.

Sincerely,

Arthur C. Townsend  
State Historic Preservation Officer

cc: Dr. Bruce Rippeteau; State Archeologist  
Mr. James Hartmann; Coordinator, Historic Preservation

## COMMENTS



### DIVISION OF PARKS AND OUTDOOR RECREATION 1313 SHERMAN 818, DENVER, CO. 80203

STATE OF COLORADO  
Richard D. Lamm, Governor  
DEPARTMENT OF NATURAL RESOURCES  
Kerrie D. Sherman, Executive Director

GEORGE T. O'MALLEY, JR., Director

PARKS AND OUTDOOR RECREATION BOARD:  
Steve D. Duncan, Chairman  
Richard G. Bridgman, Vice-Chairman  
Harvard R. Alper, Secretary  
Clarke Saffinger, Member  
Phil Eggleston, Member

## MEMORANDUM

TO: Stephen D. Ellis, Coordinator  
Colorado Clearinghouse

FROM: Ralph Schell, Planner  
Colorado Division of Parks and Outdoor Recreation

DATE: April 13, 1979

SUBJECT: Gunnison Wild and Scenic River Study

The Division of Parks and Outdoor Recreation has reviewed the Draft Environmental Statement for the Gunnison River and concurs with the U. S. Department of Interior, National Park Service, and the Colorado Department of Natural Resources in recommending that the Gunnison River be added to the National Wild and Scenic Rivers System as a "wild" river.

RS/jb

## RESPONSES



## COMMENTS



COLORADO DEPARTMENT OF HEALTH

4210 EAST 11TH AVENUE • DENVER, COLORADO 80220 • PHONE 320-8333  
Frank Traylor, M.D., Executive Director

DATE: April 24, 1979

SUBJECT: NON-STATE ASSISTANCE

### REVIEW AND COMMENTS

TO: Mr. Stephen O. Ellis  
Colorado Clearinghouse  
Division of Planning

PROJECT TITLE: Gunnison Wild and Scenic River Study, U.S. Forest Service/National  
Park Service 879-107

STATE IDENTIFIER: MA

COMMENTS: Water Quality Control

COMMENTS DUE: May 14, 1979

- 1 From a water quality prospective we urge the proposed Wild and Scenic River Study include the lower segment from one mile below Smith Fork to the confluence of the North Fork of the Gunnison River.

Our data shows no appreciable difference in water quality below Smith Fork and consider it to be a logical inclusion for wild and scenic designation.

## RESPONSES

- 1 The study did include this segment, but it was found ineligible for designation. Good, naturally degraded, or restorable water quality is a necessary but not sufficient condition for a finding of eligibility under the "Guidelines" for evaluating potential additions to the system.

*Micki Barnes*

Name, Title

Micki Barnes, Program Administrator

## COMMENTS

HARD D. LAMM  
GOVERNOR



COLORADO GEOLOGICAL SURVEY  
DEPARTMENT OF NATURAL RESOURCES  
715 STATE CENTENNIAL BUILDING - 1313 SHERMAN STREET  
DENVER, COLORADO 80203 PHONE (303) 539-2611

## RESPONSES

JOHN E. SOULS  
DIRECTOR


April 30, 1979

Mr. S. O. Ellis  
Colorado Clearinghouse  
Colorado Division of Planning  
1313 Sherman Street, Room 520  
Denver, CO 80203

RE: GUNNISON WILD AND SCENIC RIVER STUDY  
U.S. FOREST SERVICE/NATIONAL PARK SERVICE

We have received and reviewed this document and from a geologic standpoint find it adequate for its intended purpose. Subject to any other re-review as required by other agencies we give our conditional endorsement of this study.

Sincerely,

  
James M. Soule  
Engineering Geologist

JMS/vt

## COMMENTS



### *District 10 Regional Planning Commission*

*Serving the Local Governmental Units within the Counties of  
Delta, Gunnison, Hinsdale, Montrose, Ouray, and San Miguel*

DATE: May 25, 1979

TO: (Applicant)

Ms. Karen L. Green  
Office of Communications and Public Affairs  
Rocky Mt. Region  
National Park Service  
P.O. Box 25287, Denver, CO. 80225

FROM: Gloria Slaker, Executive Secretary

RE: Draft Environmental Statement/Gunnison Wild & Scenic River Study

PROJECT NAME: Above

DISTRICT 10 CONTROL NUMBER 80-79 STATE CLEARINGHOUSE NUMBER \_\_\_\_\_

On May 21, 1979 the District 10 Board of Directors reviewed your application for funding. This review was completed as a part of their responsibility as a Regional A-95 Clearinghouse. Action on your application is noted below:

\_\_\_\_\_ They support the proposed project.

\_\_\_\_\_ They supported the proposed project with the reservations and/or provisions listed below.

XXXXXXXX \_\_\_\_\_ They are in opposition to the project for the reasons listed below.

\_\_\_\_\_ They do not wish to comment on the proposed project.

\_\_\_\_\_ They have tabled the application for the reasons stated below. Please provide our office with a response to the Board's concerns as your application will be reviewed on \_\_\_\_\_

#### REVIEW COMMENTS:

Montrose and Delta Counties are in opposition to any inclusion of this portion of the Gunnison River into the Wild and Scenic River Act.

CC: State Clearinghouse  
Funding Agency

## RESPONSES

## COMMENTS

Colorado-Ute Electric Association, Inc.  
P. O. Box 1149  
Montrose, Colorado 81401

May 30, 1979

Mr. Glen T. Bean  
Regional Director  
National Park Service  
P. O. Box 25287  
Denver, Colorado 80225

Attention: Mr. Chuck Adams

Gentlemen:

Draft Environmental Statement  
Gunnison Wild and Scenic River Study

Colorado-Ute Electric Association, Inc., has reviewed the Draft Environmental Statement (ES) on the Gunnison River Wild and Scenic River Study. We have previously submitted comments on the Draft Study Report, and one of our staff members participated in the Wild and Scenic River Study as an auditor-consultant.

Our comments are limited to the ES sections that address the impact on water resource development projects of the proposed addition to the Wild and Scenic River System. A general comment on these sections is that the concepts do not seem to be clearly stated and are treated as being unimportant. Further, input from the auditor-consultant group was not addressed in any depth in the ES.

- 1 The footnote on Page III-1 states that "...economic feasibility has not been demonstrated for any of these water resource developments...". On June 18, 1977, Colorado-Ute submitted information on an alternate National Economic Development Plan for the Gunnison River study area to the Bureau of Land Management. This information shows the economic feasibility of Colorado-Ute's Tri-County Project which provides hydroelectric power and energy and water storage for future thermal electric generating facilities and other beneficial purposes. This project would inundate about one mile of the lower end of the Wild and Scenic

## RESPONSES

- 1 Portions of the footnote have been deleted. The purpose of our environmental statement is not to analyze (recreational) benefits of proposed project developments that may have a relationship to the wild and scenic river proposal, but to present impacts the proposal would have on the project developments.

## COMMENTS

Mr. Glen T. Bean

-2-

May 30, 1979

segment but would effect recreational potential outside the study area. The analysis does not address benefits of recreation potential at the confluence of the Black Canyon of the Gunnison and North Fork of the Gunnison Rivers.

The same footnote on Page III-1 also states that "... it is not known if the wild river proposal would, in fact, effectively preclude even one of the projects". The projects referred to are the Smith Fork, Cedar Flats, and Tri-County Projects described in III-2. On Page III-2, it is stated that both the Cedar Flats and Smith Fork water projects will be precluded by the Wild River designation and the Tri-County Project would be precluded unless modified.

- 2 On Page III-3, it is stated that "... electric energy could be obtained from other sources, including facilities that are part of the Colorado River Storage Project (CRSP) and others that contribute to the regional power grid". This statement may be true, in theory, as far as "other" projects are concerned; however, the elimination of the proposed hydroelectric projects in this area will permanently reduce the amount of hydroelectric power potentially available to the people of Colorado and the loss will most probably be replaced with additional coal-fired generation. This aspect has not been addressed in the draft ES.

On Page III-3, it is stated that "If these respective projects are not constructed, affected proponents would not be able to export power outside the region...". It is not clear why electric power exported from one region to another region is related to the designation of a section of river as Wild and Scenic. The facts of the matter are that the State of Colorado has been a net importer of electric energy in the past and Colorado-Ute, the principal power supplier in western Colorado, is not a net exporter of power and has no plans to do so. To our knowledge, the United States is the major, and perhaps only, exporter of power from the western Colorado region. At the present time, only a small amount of CRSP power is actually marketed in this region and no more is available under current conditions. Recently, Colorado-Ute was excluded from receiving an allocation of previously unmarketed CRSP peaking power even though it qualifies as a

## RESPONSES

- 2 Portions of pages III-2 and III-3 have been modified to clarify the loss of potential hydropower if the proposal is implemented. There was no attempt to show a relationship between the exporting of power and the designation of a wild river, other than to describe the loss of hydro-power that could result from designation.

## COMMENTS

Mr. Glen T. Bean

-3-

May 30, 1979

preference customer, is within the marketing area, has a valid contract to buy power from the United States, and serves in the area where a substantial portion of the peaking power is to be generated. The irony of the situation is the government's pious concern about exporting power while at the same time leaving the impression that power for future needs might be obtained from CRSP.

- 3 On Page III-3, it is stated that "Since detailed plans for these projects have not been formulated, however, the opportunity cost foregone by not constructing the projects is unknown". A significant amount of planning has been accomplished by Colorado-Ute for its Tri-County Project; certainly enough to indicate its economic feasibility as stated previously. Detailed plans cannot be made and substantial funds expended for a project if it is determined that the project is precluded by the Wild and Scenic River designation.
- 4 Significance is placed on the capability of the Sulfur Gulch Alternative (Page II-72) to the Cedar Flats, Smith Fork, and Tri-County Projects. As noted on Page 13 of the Colorado-Ute report submitted to the Bureau of Land Management (a member of the Wild and Scenic River Study Team) in June 1977, there are serious deficiencies in the concept of the Sulfur Gulch Alternative. Further, power is consumed rather than generated by this project. In addition, the methodology subscribed to in the Government's NED plan for arriving at the economics of the Sulfur Gulch are questionable.
- 5 In conclusion, it appears that input which is contrary to the Government proposed Wild and Scenic River designation has not received serious consideration. Specifically, we believe a careful analysis of the one-mile section located at the lower end of the eligible Wild and Scenic River Section would show substantial overall benefits to electric consumers of Colorado and the public in general if designated as a multiple-use area.

## RESPONSES

- 3 We have modified the sentence in question.
- 4 The Gunnison Wild and Scenic River study team did not attempt to evaluate the feasibility of the Sulphur Gulch alternative. The team simply utilized the numbers and data from the report submitted by the engineering firm retained by Gulf Oil and incorporated the information into the National Economic Development Plan as prescribed by the Principles and Standards guidelines. The Colorado-Ute Electric report was not submitted to the study team in time for consideration in preparing the Principles and Standards analysis.
- 5 We regret this impression. Attempts were made throughout the study to meet with project proponents and to utilize the data furnished by them.



## COMMENTS

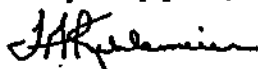
Mr. Glen T. Bean

-4-

May 30, 1979

We appreciate the opportunity to make these comments.  
Please advise us if further assistance is needed.

Very truly yours,



F. A. Kuhlmeier  
Vice President  
System Planning Division

FAK:map

cc: Mr. Robert L. McPhail, Western Area Power Administration  
Mr. Albert M. Gabiola, Western Area Power Administration  
Mr. Harris D. Sherman, Colorado Department of Natural Resources  
Mr. Dennis M. Kirtland, City Manager, Delta, Colorado

## RESPONSES

## COMMENTS

city of delta

colorado 81416

P.O. Box 19



## RESPONSES

May 29, 1979

Mr. Glen T. Bean, Regional Director  
National Park Service  
655 Parfet Street  
Post Office Box 25287  
Denver, Colorado 80225

Dear Mr. Bean:

Subject: Comments on Draft Environmental Statement  
for Gunnison River Wild and Scenic River Study

This letter contains the review and comments of the City of Delta, Colorado (City) on the Draft Environmental Statement for the Gunnison River Wild and Scenic River Study (DES) dated January 1979. The City wishes to express its gratitude to the National Park Service for the opportunity to submit comments and for extending the deadline for submittal of comments to June 1, 1979.

### SUMMARY

The City is opposed to the DES proposal that the gorge segment of the Gunnison River, located downstream of the Black Canyon of the Gunnison National Monument (monument segment), be included in the National Wild and Scenic Rivers System because such designation would prohibit water resource development in the gorge segment of the river. The designation would forego water resource benefits such as water supply, irrigation, electrical power production and recreation available to the City of Delta, the Uncompahgre Valley and the State of Colorado.

## COMMENTS

(2)

1 The DES fails to recognize or consider an alternative to the Wild and Scenic Classification of the gorge segment that would include development of water resources in conjunction with management for the protection and enhancement of the gorge's scenic, recreational, geological, fish and wildlife values. The City, however, does not take exception to the inclusion of the outstandingly remarkable Black Canyon of the Gunnison National Monument Segment in the National Wild and Scenic Rivers System, since it is already part of the National Park System within a designated wilderness area.

The City proposes to construct a hydroelectric project, referred to herein as the Smith Fork Project, to be located entirely within the gorge segment. This project would consist of a dam, a narrow canyon reservoir, and a powerhouse with an installed capacity of 35.5 megawatts with an average annual energy production of 186,000,000 kilowatt-hours. A Preliminary Permit for initial investigation of the Smith Fork Project has been applied for by the City and received from the Federal Energy Regulatory Commission (Project No. 2792), dated August 1, 1978. The Preliminary Permit, which was issued for a period of 36 months, does not authorize construction of the Project, but merely allows the City to maintain priority of Application for license while it gathers and prepares necessary supporting information.

The economic feasibility of the Smith Fork Project has been clearly demonstrated from studies which have determined the annual cost of power from the Smith Fork Project to be 19.7 mills per kilowatt-hour (in today's time frame) while the City is currently purchasing wholesale power at a cost of 28 mills per kilowatt-hour. Interest in developing the Smith Fork Project has been documented by parties such as power companies, financial planners (see letters attached as Exhibits A and B) and others. The Project would utilize water, a renewable, non-polluting natural resource, to generate enough energy to save the equivalent of 17,000,000 gallons of oil each year, which is a significant savings in view of the current national shortage of fuel oil and gasoline.

2 The development of the Smith Fork Project would have minimal adverse impacts on the scenic, geological, fish and wildlife resources in the

## RESPONSES

1 Such alternatives were considered in the Gunnison Wild and Scenic River Study Report (1978), the companion document to this environmental statement. Among other conclusions in this report, it was noted that reservoirs in the Gunnison Gorge Area would risk extirpating the endangered river otter, disturbance to nesting raptors, and inundation of historic and archeologic sites. Recreation of a type already available in the region, lake boating, would replace existing river-oriented recreation.

These plans were not analyzed in the EIS under the Existing Management Option because it was considered that hydropower development would not be permitted, even without designation, due to the opposition of the Interior Department and disturbance of endangered species. Also, the same type of economic/environmental analyses required by the U.S. Water Resources Council for Wild and Scenic River Study reports are not required for environmental statements.

Prior to any mandate to study the Gunnison River for possible inclusion into the Wild and Scenic Rivers System, the BLM designated and withdrew from appropriation the Gunnison Gorge Recreation Lands. These administrative actions were intended to recognize and protect the river and canyon environs. It is reasonable to assume that the BLM and Department of the Interior would oppose any actions which might jeopardize the values for which the Gunnison Gorge Recreation Lands have been recognized.

2 We do not agree that the Smith Fork Project would have minimal adverse impacts on the scenic, geologic, and fish and wildlife resources of the Gorge. According to the Fish and Wildlife Service, Salt Lake City, a large reservoir would favor establishment of a sizeable, nongame fish population in competition with more desirable trout species. Large increases in recreation fishing use would compound the problem and require an annual stocking program by the state. Such a program would be costly and in conflict with long-term management goals of the state to further limit the annual stocking program in favor of wild, self-producing trout species. In addition to the foregoing, some of the geologic and scenic features that contributed to findings of "outstandingly remarkable values" would be inundated. Also see our response to Comment #6.

## COMMENTS

(3)

gorge segment. The Project would have a beneficial impact on the recreational resources of the area by forming a narrow lake with increased but controllable access to the area.

- 3 The principal objective of the DES proposal is to prohibit the development of water resources in the gorge segment of the river while leaving the overall protective management objectives for the gorge the same. The Wild and Scenic Rivers Act provides the legislative mechanism to accomplish this, since the Act provides wilderness area management to a river corridor but at the same time explicitly prohibits water resource development. The City maintains that a more beneficial management scheme for the gorge segment would include continued protective management of the scenic, fish, wildlife and geological resources as well as water resource development and is therefore opposed to the proposed action.

### SMITH FORK PROJECT ALTERNATIVE

The proposed Smith Fork Project, a hydroelectric development, would be located about one mile upstream from the confluence of the Smith Fork and the Gunnison River or about 2 miles upstream from the downstream boundary of the Gunnison Gorge Recreation Lands. The proposed Project would consist of a 275-foot high concrete arch dam with an ungated overflow spillway at the crest. The normal maximum reservoir elevation would be 5,425 feet with a maximum drawdown of 40 feet. An outlet works would be provided through the dam for emergency drawdown and fish releases when the powerhouse is not operating. The powerhouse would be of an indoor surface type, located at the toe of the dam. The powerhouse would contain two Francis turbines rated at 24,300 horsepower each. The total rated plant capacity would be 35,500 kW and the average annual energy generated by the Project is expected to be 186,000,000 kWh.

- 4 An economic feasibility analysis has been completed for the proposed Smith Fork Project and is referenced in DES reference 12, "Smith Fork Project Reconnaissance Report, City of Delta, Colorado by R. W. Beck and Associates dated August 1976". The DES states incorrectly on pages II-72, II-88

## RESPONSES

- 3 The principal objective of the wild and scenic river proposal is to preserve for existing and future citizens of the nation the outstanding geologic, scenic, recreational, and fish and wildlife values of the free-flowing Gunnison River; a result of designating the river will be the prohibition on water resource development within the designated area.

The Wild and Scenic Rivers Act provides management for Wild River Areas that is not completely dissimilar to that prescribed in the Wilderness Act, but wild river areas and wilderness areas should not be confused.

- 4 References to the economic feasibility of the project have been deleted.

## COMMENTS

(4)

and III-1 that economic feasibility has not been demonstrated for Delta's hydroelectric project. The economic feasibility of the Smith Fork Project was based on a comparison of the annual cost of the Project to the annual cost of the most economic alternative power generation source. This alternative source was a coal-fired base load plant for energy and an oil-fired combustion turbine for peaking. The Project showed savings over the alternative source in the first year of operation (time frame 1979) with an estimated benefit-to-cost ratio of 1.30 and an annual cost of energy of 19.7 mills per kilowatt hour. In determining the Project benefits, only the power benefits were utilized and since there are other available benefits to the Project such as additional water yield for domestic use, irrigation and water use for fossil fuel plants and recreation, the overall benefit-to-cost ratio would be significantly greater than 1.30.

- 5 Development of the Smith Fork Project would not result in significant changes in the overall visual appearance of the area in the gorge segment and would not affect the outstanding visual qualities of the monument segment whatsoever. Small changes in the appearance of the gorge area could be expected with the change to a narrow reservoir from a river. Unlike most reservoirs which look like a lake, the reservoir behind the proposed Smith Fork Dam would resemble a slowly flowing river because it would be so narrow and situated deep down in a canyon. Much of the existing river is now not visible from the outer canyon rims. Although sections of the proposed reservoir will be visible much of its length would still be hidden by the inner canyon walls. The inner canyon walls will rise above the reservoir water surface from 500 feet to over 800 feet for over 55% of its length. The average reservoir width would be 470 feet which is approximately three-fourths of the average width of the existing Morrow Point Reservoir, which is located upstream of the monument as the middle reservoir in the three reservoir Curecanti Unit. Typical cross sections along the proposed reservoir are shown in Figs. 1 and 2.

- 6 Development of the Smith Fork Project would provide exceptional controllable recreational opportunities in the gorge segment of the river. The presence of the reservoir behind Smith Fork Dam would provide access to

## RESPONSES

- 5 The "Guidelines" for evaluating potential wild and scenic rivers require federal members of the study team to evaluate scenery and other values from the perspective of a river user. From that perspective the scenic impact of a reservoir 275 feet deep at the dam would be considerable. From the rim of the outer gorge, scenic impacts apparently would be similar to those you specify. Please note, however, that water project developments within proposed or existing wild and scenic river areas clearly violate the intent of the Wild and Scenic Rivers Act (P.L. 90-542, as amended); thus, a choice must be made by the President and the Congress.

- 6 At a public meeting in Hotchkiss, more than half of those present had hiked to the bottom of the Gorge. We do not feel that exceptional conditioning is required for access, although we do grant that most handicapped and elderly would not attempt hiking into the Gorge area; however, there are other nearby areas these individuals can use. Demand for reservoir recreation is supplied at Morrow Point, and Blue Mesa, and will be available at the Dominguez-Escalante Reservoir downstream if that project is constructed, so it is not established that demand for reservoir recreation requires another reservoir. In any event, it is generally accepted that a wild river provides a rarer and more highly valued recreation opportunity than that available at a reservoir, even if in a scenic setting.

## COMMENTS

(5)

fishing and sightseeing opportunities in the canyon of the gorge segment. It is clear that under existing conditions, entering the canyons near the river for climbing, boating, fishing or just hiking is only for the exceptionally vigorous person. With the presence of the reservoir, such persons could be accommodated as well as the less vigorous elderly and handicapped people who could never see the canyon from the bottom unless from a boat on the reservoir. Boating on the reservoir could be completely controlled by singular access to the dam for launching purposes or restricted to tour boats operated by the Park Service as is presently being done at Morrow Point. Park Service personnel at Morrow Point have stated that there is an extremely high demand for the tour boat excursion and that for every person to take the tour, two are turned away. Approximately 60 people per day during the recreation season are fortunate enough to be able to take the tour boat excursion.

- 7 The effects of the proposed reservoir on the wildlife have not yet been estimated (all field work required under the Preliminary Permit has been prohibited by the Department of Interior) and can only be surmised. However, the effect on wildlife, including endangered species, is likely to be negligible. The existing river banks are either rock with no vegetation or talus slopes and materials deposited by the river and covered by sparse vegetation. This vegetation has probably developed in its present location after the scouring floods were terminated by the upstream reservoirs. Even above the level of the historical floods in the inner canyon the vegetation is very sparse and probably does not provide a significant amount of habitat for the larger species of birds and mammals. The inner canyon walls which are 400 to 800 feet high (DES p. II-51) will be covered to roughly one-fourth of their area by the reservoir. It is expected that vegetation needing more water than the rain provides will develop along the banks of the reservoir wherever there is enough soil. Eventually the shoreline vegetation will probably be similar to the existing river bank vegetation and the reduction in wildlife habitat will probably be negligible.

- 8 The effect of the inundation on the fish populations will probably be slight. The moderately flowing stream will be replaced by a slowly flowing

## RESPONSES

With or without Wild and Scenic River designation, the BLM has formulated management strategies, with public review, for the Gunnison Gorge Recreation Lands. These strategies provide for low-key, dispersed use recreation opportunities (i.e., hiking, fishing, primitive camping, etc.) which allow for extensive use of the canyon. These kinds of opportunities will serve to complement the intensive, but passive, recreation opportunities available within the Black Canyon of the Gunnison National Monument.

- 7 While we do not agree that the Department of the Interior has restricted or precluded fish and wildlife investigations in the Smith Fork Project area, we do agree that the effects of the reservoir on fish and wildlife cannot be detailed until appropriate FERC permit studies are completed. Until such time, we rely on Fish and Wildlife Service-supplied information in the report that habitat in the Gorge is outstanding, particularly for raptors and the state-endangered river otter, and that reservoir construction would disturb the raptors while nesting and could extirpate the otter. Also see our response to Comment #2.

- 8 Current temperature conditions within the study segment are adequate for spawning, incubation, and for juvenile and adult populations of salmonids. Therefore, the reservoir would provide no "enhancement." In regard to the comment at the top of page 6, fisherman use is not a yardstick for biological quality, which was a factor in determining the fish and wildlife values of the segment.

## COMMENTS

(6)

reservoir with more space for fish. Cooler temperature conditions will enhance the salmonid population which dominates the fish fauna. Recent studies of the salmonid fishing in the upper Gunnison River before and after the dams and reservoirs were constructed have shown that the total number of fishermen was more than would have been expected without the dams. Also, the catches were comparable with much larger fish of trophy size ("Some Factors Historically Affecting the Distribution and Abundance of Fishes in the Gunnison River", dated September 25, 1978 by William J. Miltzins, administered by the U. S. Bureau of Reclamation and Colorado Division of Wildlife). The net result was a slight increase in pounds per man per day. This indicates that the Smith Fork Project Reservoir would probably not adversely affect the fishing.

9 It is stated in the DES that the upstream projects have lowered water temperatures and driven some endangered species of fish further downstream (DES, II-75). The water released from the Project for power production could be drawn from whatever level is desirable to control the temperature of downstream releases. Warmer water near the surface of the reservoir could be released from the Smith Fork Project which would allow these endangered species more river miles for habitat than that contemplated under designation as a "wild" river.

10 The reservoir, which will resemble a quiet river, would be a preferable substitute for access into the gorge rather than roads in and near the inner and outer canyons with all their unnaturalness and their unsightly cuts which will heal so slowly in the dry climate of the area. Further, encounters with wildlife, whether endangered or not, when made from a boat with a guide can be far less disturbing to the wildlife than relatively uncontrolled approaches on foot or by vehicle.

For the reasons stated above, the City therefore maintains that the Smith Fork Project is a viable alternative to the proposed designation of the gorge segment and would provide much needed economic benefits in the area.

## RESPONSES

9 See comment from and response to Bureau of Reclamation, #8. The statement regarding endangered fish has been modified.

10 The argument presented in this paragraph is academic, as no roads are proposed into the Gorge.



## COMMENTS

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### COMMENTS ON DRAFT ENVIRONMENTAL STATEMENT

The DES proposes that 26.2 miles of the Gunnison River be included in the National Wild and Scenic Rivers System as a "wild" river. This "wild" segment, referred to herein and in the DES as the eligible segment, is located in south-central Colorado near the Cities of Delta and Montrose and would contain 12,932 acres. The proposed eligible segment extends from the upstream (southern) boundary of the Black Canyon of the Gunnison National Monument, through the monument and through the Gunnison Gorge Recreation Lands to about one mile below the confluence of the Gunnison River and the Smith Fork.

- 11 At present there are 23 rivers with their adjacent lands included in the National Wild and Scenic Rivers System as indicated in the Wild and Scenic Rivers Act (Act), as amended through PL 95-625, November 10, 1978. Furthermore, 75 river segments have been designated as potential additions to the Wild and Scenic Rivers System, of which 12, or 16%, are in the State of Colorado. This is twice as many eligible rivers as contained in any other State in the United States, as listed in Section 5(a) of the Act.

- 12 As previously stated, the Gunnison Wild and Scenic River eligible segment contains 26.2 miles of river and encompasses 12,932 acres. This is equivalent to 494 acres per mile of river. According to Section 3(b) of the Act, the amount of land adjacent to a Wild and Scenic River, which will be included as part of the Wild and Scenic River, "shall include an average of not more than three hundred and twenty acres per mile on both sides of the river". The Gunnison Wild and Scenic River eligible segment exceeds this 320 acre per mile limit by 174 acres per mile, or 54%, which indicates that the proposed width of river corridor is inconsistent with the provisions of the Act.

- 13 The DES states that an objective of classifying the eligible segment a Wild and Scenic River is to preserve the "free-flowing condition of the waters" (DES page I-3, 2nd paragraph). The present condition of the streamflow in the eligible segment is not considered to be "free-flowing." The amount of streamflow in the river is significantly affected by the presence of

## RESPONSES

- 11 This comment does not address the content or the adequacy of the environmental statement.

- 12 The corridor acreage restriction referred to pertains specifically to the eight initial rivers established as a result of the passage of the original Wild and Scenic Rivers Act (P.L. 90-542) in 1968. These "instant" rivers are listed in section 3(a) of the Act. The "average of not more than 320 acres per mile" has been used as a guideline by federal agencies for section 5(a) study rivers and by federal management planning teams for post-1968 newly designated rivers; in some cases, where warranted by terrain or other factors, corridor acreages have averaged more than 320 acres per mile. Second, the area recommended is all federal land, and can be managed in keeping with the provisions of the Act even if the recommendation for a 12,932-acre corridor is rejected in favor of limiting the corridor acreage to 320 acres per mile.

- 13 A number of rivers have been designated to the National System which have upstream dams and fairly considerable flow modifications. Since Congress has designated them it has been determined the intent of the Act was to bar those rivers which were unnaturally and frequently dry, were inundated, or whose flow was affected excessively by channel modifications. The Gunnison in the study segment has its flow modified, as you point out, but it is a free-flowing river within the meaning of the Act.

## COMMENTS

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the three dam Curecanti Unit which consists of three existing dams and reservoirs upstream from the eligible segment. These reservoirs include Crystal Lake, with a total reservoir volume of 38,190 acre-feet; Morrow Point Lake, with a total reservoir volume of 117,190 acre-feet; and Blue Mesa Lake (Colorado's largest body of water), with a total reservoir volume of 940,755 acre-feet. The overall effect of the presence of these reservoirs on the level of streamflow in the eligible segment is to substantially reduce the flow from what would naturally (i.e., without the presence of upstream reservoirs or diversions) occur during periods of high runoff and to substantially increase the flow from what would naturally occur during periods of low runoff.

In addition to the effect of the three large upstream reservoirs, diversions of up to 1,000 cfs are presently made, during the months of March through November, through the Gunnison Tunnel which has its intake located just upstream of the eligible segment. The Gunnison Tunnel diverts water out of the Gunnison River Basin into the adjacent Uncompahgre Valley for irrigation purposes. In addition, the Gunnison Tunnel has recently been upgraded to allow year-round diversions for the new "Project 7", a municipal and industrial water project development for the Cities of Delta and Montrose, Tri-County Water Conservancy District, Town of Olathe and two private water companies. This increased diversion will make it more difficult to maintain the minimum 200 cfs flow in the Gunnison River in the eligible segment. Small quantities of water are also diverted from the Gunnison River Basin above the eligible segment by the Carlspar, Farbell and Tabor Ditches.

The overall combined effect of these diversions along with the regulation effects provided by the three upstream reservoirs results in a streamflow condition in the eligible segment that is anything but "free-flowing" or "wild."

- 14 In a manner analogous to the effect man has had on the "free-flowing" or "natural" condition of the river, man has also affected the river's fish population. Based on a comprehensive study of the distribution and abundance of fishes in the Gunnison River (William J. Wiltzius, "Some Factors Historically Affecting the Distribution and Abundance of Fishes in the Gunnison

## RESPONSES

- 14 The fish population in the Gunnison River was not referred to the DES as "native." Wild, self-producing trout fisheries, whether native or introduced, are very valuable and are considered a premium in Colorado.

## COMMENTS

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River", Colorado Division of Wildlife, September 25, 1978), the fish population in the Gunnison River cannot be considered native due to the introduction of many other fish species. The current, predominant salmonid species are the introduced rainbow and brown trout rather than the native cutthroat trout. In addition, two other salmonids have been introduced to the Gunnison River, the brook trout and kokanee salmon. Fourteen non-salmonid species have also been introduced to the river since 1890, in competition with the then eight native non-salmonid species. Thus, with 18 out of the 27 important fish species being introduced species, the Gunnison River cannot be considered to possess a native fish population.

- 15 On page II-75 of the DES it is stated that "The Colorado squawfish and humpback sucker no longer inhabit the study segment". It is then implied that these two endangered species have left the area due to the operation of the upstream Curecanti Project. According to the Wiltzius report, however, it is doubtful that either of these species "extended upstream farther than Delta", which is downstream of the eligible segment.

The DES states that an objective of classifying the eligible segment wild is to maintain the "existing excellent water and air quality" (page I-3, 2nd paragraph). In the gorge segment, the development of the Smith Fork Project would likely result in at least maintaining the existing levels of water and air quality and, in fact, could likely improve both.

- 16 The DES states that an objective of classifying the eligible segment wild is to "provide high quality recreational opportunities associated with a free-flowing river for present and future generations". Access to the gorge segment is presently very limited, with only a few trails leading down into the canyon. These trails, which can only be reached by automobile or four-wheel drive vehicles, are fairly rugged, and as a result, recreational visits to the gorge segment are limited and are undertaken primarily by a relatively few, robust individuals. With the Smith Fork Project there would be increased access to the canyon and reservoir via the project access road(s). This would provide increased boating access and related recreational opportunities for those individuals who otherwise could not get into the gorge. This

## RESPONSES

- 15 The correction has been made.

- 16 See response to Comment #6.

## COMMENTS

(10)

is particularly true for the elderly, who make up a relatively large portion of the population in this part of Colorado, and the handicapped. Since access to the canyon would be via at most a few roads, the amount of people and the amount and/or type of boating craft in the reservoir area could be easily controlled, and thereby prevent any adverse environmental impacts from over-use of the area.

- 17 Concerning recreation under the proposed Wild and Scenic River classification, in the DES on page III-5 it states that "no increased operation and maintenance cost will result from implementation of the proposal". However, based on predictions in the DES (Table 3-1, page III-4) the recreational use of the gorge area in 1990 would be 18,550 visitor days under the proposed "wild" river designation. This is an increase of 6,120 visitor days, or 33%, under the "wild" river proposal. It seems unreasonable to assume that such a large increase in use would result in "no increased operation and maintenance cost".

- 18 The DES states that the eligible segment, which extends from the upstream boundary of the Monument to about one mile below the confluence with the Smith Fork, was considered as one unit "because of its consistently outstanding geologic, scenic, wildlife and recreation values" (page II-37, 4th paragraph). The DES proposes that this entire 26.2 mile stretch be classified as "wild."

This recommendation would include in a single "wild" river unit two very separate stretches of river which are anything but "consistent" and are, in fact, two very different scenic and recreational resources. The monument segment encloses a single canyon that reaches a maximum depth below the rim of 2,700 feet. The river gradient is steep, as much as 275 feet in a one mile stretch, and most of the river is very narrow. In the gorge area the vistas are different. Just downstream from the monument the canyon walls flare out to form a double canyon with the inner canyon dwarfed by the broad outer canyon. Much of the outer canyon is covered by soil and the sparse vegetation typical of this dry area. This part of the river has an average gradient of only 27 feet/mile (DES pp. II48-51). It is obvious, therefore, that basic

## RESPONSES

- 17 The expected 6,120 visitor day increase in use can be handled by facilities and personnel already planned by the BLM for the Gorge area, thus there would be no increased operation and maintenance costs attributable to the proposal. This determination was made by the Bureau of Land Management. Any increase in use and O&M, should they develop, will be addressed in management planning for the river and Gorge.

- 18 The Monument and Gorge do differ, and the EIS acknowledges and describes these differences. One of the notable aspects of the area's scenery is that two such different areas, each in its way outstanding, lie in such close proximity. Most pertinent, the wild classification reflects the two areas' minimal level of development, not differences in physiography.

## COMMENTS

(11)

differences exist between the characteristics of the monument and gorge segments and to consider the entire 26.2 mile stretch as one consistent unit is not realistic. This idea is confirmed in that the gorge segment was not contained in the Black Canyon of the Gunnison National Monument land withdrawal.

- 19 It should be mentioned that since the monument segment of the river is already included in the National Park and Monument System and subject to Public Law 84-485, Colorado River Storage Act of 1956 which prohibits dams and reservoirs within the Monument, the Wild and Scenic designation is not required to prevent water resources development.

- 20 The DES states in Section VI and on page II-88 that hydropower production and domestic water supply systems could be feasibly developed outside the eligible river corridor. However, no description of these alternative sites or details of the economic analysis for them is presented in the study. Without these details an accurate comparison with the Smith Fork Project cannot be made. The projects may be economically feasible, but may not be as economic as the Smith Fork Project, since the Smith Fork Project is one of the few remaining good hydroelectric sites in the State of Colorado.

- 21 In a letter to the Federal Power Commission (FPC) concerning the City of Delta's Application for a Preliminary Permit for the Smith Fork Project (DES, Appendix A), the Department of the Interior (Department) erroneously states that the Smith Fork Project would be located on Dakota Sandstone, which may result in seepage losses via both intergranular permeability and joints or fractures. The Department, therefore, recommends that further studies on the amount, if any, of this seepage be conducted. However, it is stated in the United States Bureau of Reclamation's (USBR) study on the geology of Austin Dam site, located approximately at the proposed Smith Fork Project site, that all the rock below El 5500 is, "predominantly granite, gneiss and schist of Archean Age. This rock is hard and free from structural defects. It is considered competent to support any type or height of dam, and no construction problems are anticipated." (Preliminary Geological Report of the Austin Dam and Reservoir Site; United States Department of the Interior, Bureau of Reclamation; June 1950.) In discussing the Austin Dam Reservoir it further states

## RESPONSES

- 19 See response to Bureau of Reclamation Comment #3.

- 20 Those details of the other projects and the economic analysis made on them are contained in the Gunnison Wild and Scenic River Report. The Principles and Standards analysis that must be performed for wild and scenic rivers studies and that is normally included in study reports requires the generation of "National Economic Development Plans"--in this case involving hydropower. These plans must be feasible, but need not be probable. Because of the Gunnison Gorge recreation withdrawal, the possibility of adverse effects on endangered species, and Department of the Interior opposition to construction in the Gorge, hydropower development in the area was not considered a realistic enough possibility to warrant basing alternatives on it for the EIS. Therefore including sufficient information in the DES to compare all of the projects for the area, even had the information been available in sufficient detail, was considered inappropriate and unnecessary.

- 21 So far as we know, you are correct. Unless portions of the Smith Fork Project, e.g., canals for municipal/agricultural/industrial water, cross portions of the Dakota Sandstone (we were not furnished route locations for any such canals or other structures except the dam), the project will not suffer the problems cited in your comment. However, this does not relate to information in the DES, and no changes are required.

## COMMENTS

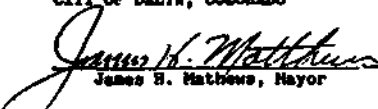
(12)

that, "The reservoir will be entirely in the Pre-Cambrian crystalline rocks consisting of granites, gneisses and schists. These rocks are impervious to percolating waters and well adapted to serve as a reservoir basin. A reservoir here is certain to be watertight."

The City respectfully requests a copy of the Final Environmental Statement for the Gunnison River Wild and Scenic River Study. The City would also appreciate being made aware of the schedule for processing of the Final Environmental Statement and of any future meetings or discussions on this study.

Very truly yours,

CITY OF DELTA, COLORADO



James H. Matthews, Mayor

cc: The Honorable Gary Hart - U.S. Senator, Colorado  
The Honorable William L. Armstrong - U.S. Senator, Colorado  
The Honorable Ray Kogovsek - U.S. Representative, Colorado  
The Honorable James P. Johnson - U.S. Representative, Colorado  
The Honorable Richard Lamm - Governor, Colorado  
Kenneth L. Plumb - Secretary, FERC  
Harris Sherman - Director, Colorado Department of Natural Resources  
John J. Bugas - President, Colorado-Uta Electric Association, Inc.  
R. Fern Putman - Vice President, Salomon Brothers

## RESPONSES

## COMMENTS

Members of the New York Stock Exchange, Inc.  
One New York Place  
New York, N.Y. 10004 (212) 747-7000

**Salomon Brothers**

## RESPONSES

Exhibit A

May 21, 1979

Mr. Dennis M. Kirtland  
City Manager  
City of Delta  
P. O. Box 19  
Delta, Colorado 81416

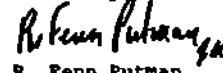
Dear Dennis:

Based on our review of preliminary economic feasibility and bulk power supply reconnaissance studies of the proposed Smith Fork Hydroelectric Project as done by R. W. Beck dated August, 1976, we believe that under current economic and financial market conditions the project is potentially viable and able to be financed.

These preliminary studies describe the proven need and demand for low cost bulk power supply by the City of Delta. Further, Colorado-Ute Electric Association, Inc. and others have indicated an interest to purchase any excess power from the project.

If you have any additional questions please call me at (212) 747-7082.

Sincerely,



R. Penn Putman  
Vice President

cc Frank Dubar, R. W. Beck, Seattle



**COMMENTS**

Exhibit B

**RESPONSES**

Colorado-Ute Electric Association, Inc.  
P. O. Box 1149  
Montross, Colorado 81401

April 20, 1979


Mr. Dennis M. Kirtland  
City Manager  
City of Delta  
P. O. Box 19  
Delta, Colorado 81416

Dear Mr. Kirtland:

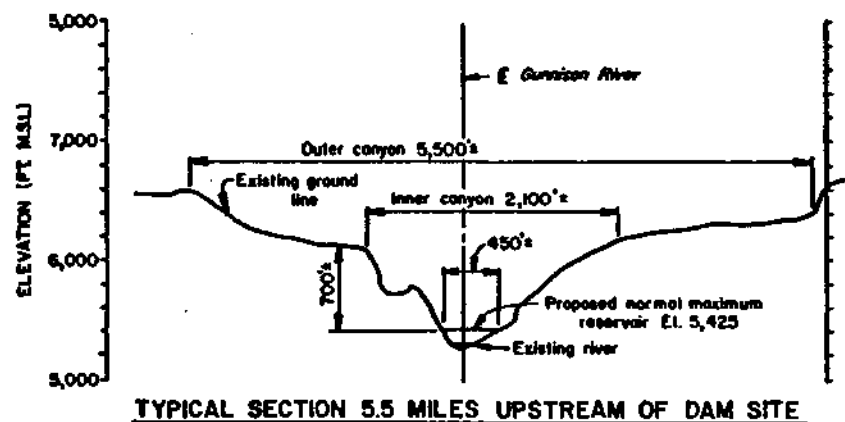
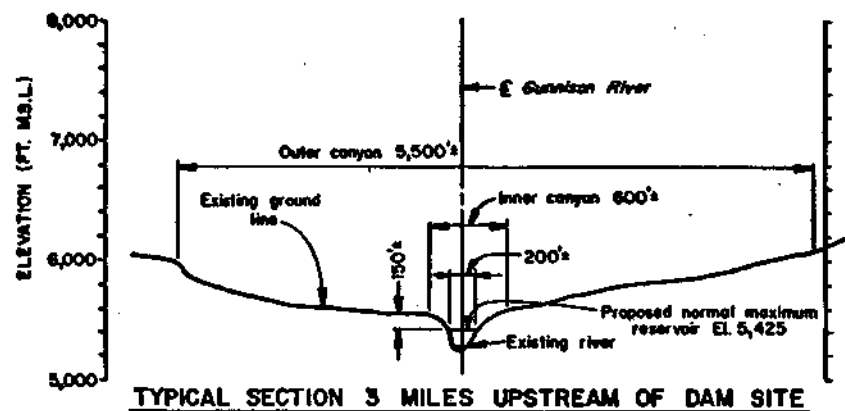
This is to advise you that Colorado-Ute Electric Association is interested in purchasing the excess power from the City of Delta's proposed Smith Fork Project, providing we can work out mutually acceptable terms and conditions.

Please keep us advised as to the progress being made in licensing this project.

Sincerely yours,

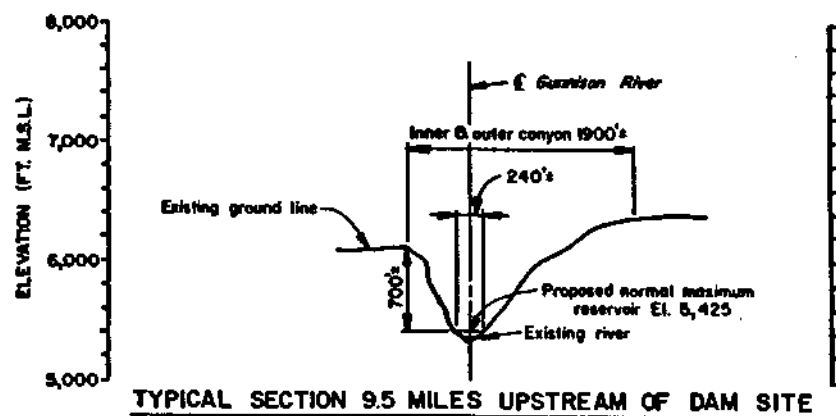
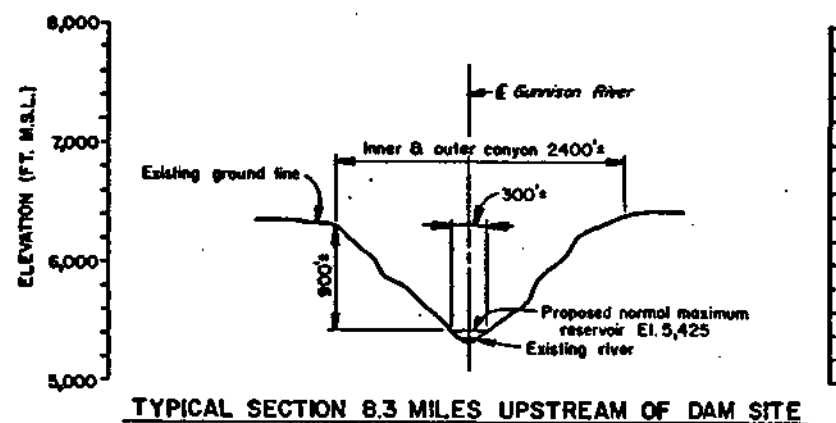
  
John S. Bugas  
President

JJB:jrs



**R. W. BECK and ASSOCIATES**  
ENGINEERS AND CONSULTANTS  
Seattle, Washington Denver, Colorado  
General office: Tower Building, Seattle, Washington 98101

**CITY OF DELTA**  
DELTA, COLORADO  
SMITH FORK HYDROELECTRIC PROJECT  
PROPOSED RESERVOIR CROSS SECTIONS



**R. W. BECK and ASSOCIATES**  
ENGINEERS AND CONSULTANTS  
Seattle, Washington Denver, Colorado  
General office: Tower Building, Seattle, Washington 98101

**CITY OF DELTA**  
DELTA, COLORADO  
SMITH FORK HYDROELECTRIC PROJECT  
PROPOSED RESERVOIR CROSS SECTIONS

## COMMENTS

## RESPONSES

# Colorado Wilderness Network

9239 East Colfax • Denver, Colorado 80206 • 573-7870

April 30, 1979

Dear Sirs:

- 1 The Colorado Open Space Council's Wilderness Workshop fully supports the Park Service's recommendation on the Gunnison River for a wild river. However, it is still unclear how the Park Service arrived at the conclusion that the 2.7 mile segment between the Smith Fork and the North Fork is ineligible for any classification. I disagree with the Park Service that this segment does not have any outstandingly remarkable values. This part of the river is free of impoundments and generally inaccessible except by trail. It is true that this last 2.7 mile stretch of the river is not as spectacular as the part of the river that goes through the monument. The Guidelines don't specifically say that a river should be compared with itself in determining outstanding characteristics. How many rivers would be considered outstandingly remarkable if they were all compared to the Colorado River running through the Grand Canyon? It seems that this part of the river has been disqualified for a very minor reason. The explanation given in the Draft EIS is woefully inadequate.

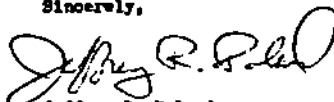
It is understood by the Workshop that the City of Delta does have some legitimate energy and water needs. These needs can be met without encroaching on the proposed 26-mile wild river segment.

It is clear from the Draft Statement that the river otter and peregrine falcon habitat must be protected. The possibility of reintroducing peregrine falcons in the gorge should be given special attention. Everything should be done to maintain this habitat in as pristine condition as possible.

Special care should be taken so that the values that the Act was meant to protect are not destroyed by overuse. If necessary, permits should be issued at peak use periods. This may be especially important during critical breeding periods for the peregrine falcon and the river otter.

In conclusion, the COSC Wilderness Workshop supports a 26-mile wild river segment. A further explanation of why the remaining 2.7 mile portion of the river was disqualified is necessary.

Sincerely,



Jeffrey R. Poland  
Wilderness Workshop  
of COSC

JRP/var

- 1 This section of river was not compared to the Colorado River in Grand Canyon when it was determined that it lacked outstandingly remarkable qualities; its attributes were compared to criteria evolved for the various categories (fish and wildlife, scenery, etc.) whose general aim was to reveal values of significance on at least a regional scale. The study team did not conclude that the 2.7-mile reach was unique, unusually scenic, or regionally significant. However, the key determinant was the fact the team, in consultation with resource experts, did not find any outstandingly remarkable values. The lower 3-mile reach also is paralleled by two roads and contains one diversion.

## COMMENTS

Mark Pearson  
Wilderness Study Group  
University of Colorado  
W&C 188  
Boulder, CO 80509

Regional Director  
National Park Service  
655 Larmer St.  
P.O. Box 25267  
Denver, CO 80225

Dear Sir:

Congratulations are in order for your extensive study on the suitability of the Gunnison River for inclusion in the National Wild and Scenic Rivers System. I strongly support your stated recommendation to classify a 26-mile segment of the Gunnison as a wild river. Designation as a wild river will greatly enhance future opportunities for recreational use and enjoyment of the natural qualities of the river corridor.

I am particularly pleased with the stated intent of a proposed master plan to place the scenic and wildlife requirements of the river above those of the visitor. Limitations on the amount of use and curtailment of human activity in the canyon are certainly desirable when visitor use threatens to damage or destroy the attributes for which the area was preserved.

I remain irrevocably opposed to any concession that would allow encroachment upon the wild segment of the Gunnison River by any of the tentative water resource development projects. Hopefully, any potential conflicts will not come to pass, and the canyon will be preserved in its natural state for many years to come.

1. I must express a bit of puzzlement, however, as to how the river environment could change so suddenly from that of suitability for inclusion as a wild river to complete non-suitability for any type of protection whatsoever. I believe a reevaluation of the 3-mile lower segment is desirable. It would seem that it surely satisfies the requirements for recreational, or even scenic, designation. I sincerely hope that the possibility of a City of Delta municipal water project did not preclude inclusion of the 3-mile segment in the National Wild and Scenic Rivers System.

Sincerely,  
*Mark Pearson*  
Mark Pearson  
Wilderness Study Group

## RESPONSES

- 1 The river environment does change suddenly and drastically about 1 mile below the confluence with the Smith Fork, with the disappearance of the Precambrian rock beneath the surface of the water. The river does not qualify for designation, since it lacks outstanding values.

If it did qualify, its classification would probably be scenic or recreational, as you point out. The possibility of a water project constructed by Delta (which would invade a major portion of the proposed wild river area), or by any other proponents, did not influence the finding of ineligibility; the natural qualities of the area did. Also see response to Colorado Wilderness Network.

## COMMENTS

### AMERICAN WILDERNESS ALLIANCE

4268 East Evans Avenue • Denver, Colorado • 80222

(303) 758-5808

May 30, 1979

Glen T. Bean, Regional Director  
National Park Service  
655 Parfet Street  
P.O. Box 25287  
Denver, Colorado 80225

Dear Mr. Bean,

The National Park Service and the Colorado Department of Natural Resources are to be commended for the excellent work done on the draft environmental statement for the Gunnison River. The American Wilderness Alliance is pleased that both agencies have proposed 26.2 miles of the Gunnison River for inclusion in the National Wild and Scenic Rivers System as a "Wild" river.

According to the draft report released by the Department of the Interior, the entire 26.2 mile segment possesses "outstandingly geologic, scenic, wildlife and recreation values".

Currently, there are no rivers in Colorado in the National Wild and Scenic Rivers System. Inclusion of the Gunnison River into this system will preserve its existing scenic, wilderness, wildlife and watershed values, in addition to preserving the associated historic and cultural values within this area.

- 1 The natural and ecological environment within the Gunnison basin is extremely diverse, in part due to the wide range of vegetative cover. Numerous endangered, threatened or sensitive plants occur in this region, including the Gunnison rock cress (Arabis gunnisoniana), an endangered plant listed in the Federal Register. Several plants endemic to Colorado and adjacent states are present in the gorge and the monument along the Gunnison.

Wildlife found within the study corridor is also diverse and relatively abundant. The Black Canyon area serves as critical winter range for mule deer and elk. Bighorn sheep frequent the rugged canyons. Golden eagles, prairie falcons, red-tailed hawks, American kestrels and turkey vultures find a balanced habitat here, as well as numerous other wildlife species including small mammals, raptors, songbirds, reptiles and amphibians, and fish. The canyon is a historic nesting area of the peregrine falcon, an endangered species. Other endangered or threatened fish and wildlife species that inhabit this area are the bald eagle, the river otter, the Colorado squawfish, humpback sucker, greater sandhill crane, and white pelican. The monument section of the Gunnison River is high on the list of potential reintroduction sites for the peregrine falcon. The Gunnison, with its abundance of trout, has been recognized as an ideal reintroduction site for the river otter, which is also on the Colorado Endangered Species list. Several successful "plantings" have already been made.

## RESPONSES



- 1 See our response to the Fish and Wildlife Service. Arabis gunnisoniana has been proposed for endangered status, but has not yet been listed.

## COMMENTS

Excellent cold water game fish inhabit these waters, including the rainbow, cutthroat, and brown trout. This river offers an exceptional trout fishery, providing a unique and satisfying angling experience. Surface waters are of excellent quality.

The region is also known for its abundance and diversity of recreational resources. Fishing, camping, hiking, and white-water boating account for the highest number of activity days. According to the Colorado State Comprehensive Outdoor Recreation Plan (SCORP), it is recognized that Colorado rivers "should be protected for scenic and environmental values, in addition to making them available for recreational use."

The entire reach of the Gunnison River easily meets the State of Colorado water quality control standards as well as criteria required for eligibility as part of the National Wild and Scenic Rivers System.

From Precambrian to Cretaceous, the rock sequence spans 1 3/4 billion years. "The overall dominant character of the study corridor is the awe inspiring and overwhelming magnitude of the river-carved canyon...Scenic values found here are inextricably interwoven with the geologic and physiographic features of the area." The area offers an outstanding panorama of canyons and surrounding hills and valleys. The monument segment, with its narrow, sheer, dark walls is breathtaking and unique. The Painted Wall in the Upper Monument is the highest cliff in Colorado. There are numerous cultural sites in the gorge. The scenic value of the Black Canyon has been recognized by civic leaders and conservationists since 1900.

2 Prior to construction of the Curecanti dam and reservoir upstream from the monument, the Gunnison River was one of the truly great rivers of North America. The Curecanti project is responsible for fluctuations in upstream water releases that do not coincide with the natural flows of the river, thereby disrupting spawning habitat. Water temperatures have been lowered as a result of this project, driving the squawfish and humpback sucker downstream from their historical habitat.

Yet another ill-advised project has been proposed along the Gunnison River. The U.S. Department of the Interior has stated that the Smith Fork project "...would likely have a direct and adverse effect on the values for which the river might be designated", and "...that even the study of this project might jeopardize the area's unique values." The project also "...has the potential for causing serious adverse environmental impact to the fish and wildlife resources of the Black Canyon area of the Gunnison River," an area that "...serves as critical winter range for deer and elk and is a very important raptor area."

None of the water project proposals for the Gunnison River have proven economic feasibility. All will have adverse environmental effects, and will jeopardize the critical habitat needed for preservation of the numerous endangered and threatened plants

## RESPONSES

2 See comment of and response to the Bureau of Reclamation, #8. We have concluded that there is insufficient proof the endangered fish were found in the study reach prior to construction of the Gunnison River dams.

## COMMENTS

and animals found here. The Gunnison Gorge is recognized as possessing outstandingly remarkable natural resource values that may qualify for protection under the provisions of the Federal Land Policy Management Act (FLPMA). Provisions of the Endangered Species Act could possibly be invoked to protect the outstanding wildlife values.

There are no known mineral deposits or reserves of economic importance in the gorge or monument that exist in concentrations and quantities suitable to permit commercial extraction. There are no known fossil fuels or geothermal resources within the study corridor. There is no known record to suggest the possible presence of uranium in the study area. The U.S. Bureau of Mines states, "The area in and adjacent to the Gunnison Gorge is an unlikely province for petroleum accumulation because the core of the gorge is composed of igneous and metamorphic rocks."

Increased human activity and disturbance will have a critical effect for many species of flora and fauna. This is especially true for the peregrine falcon and river otter, as well as the prey they depend upon for their survival. Thus far, the ruggedness and limited accessibility of the gorge has limited man's use, thereby preserving much of its wild character.

Any knowledgeable review of this area reveals that the natural values far exceed the anticipated benefits that may be derived from existing and proposed dams, diversions and related structures.

Designation of the Gunnison River as a Wild River will prohibit water resource development projects that are proposed in the river corridor that would diminish the outstanding values within the eligible river segment. A Wild River designation will preserve existing natural values, and will constitute a positive impact to the native plants and wildlife found here.

Designation as a Wild River, however, is not an irreversible commitment of our natural resources. Congress has the power to reverse this decision in the event of national need or emergency.

Inclusion of 26.2 miles of the Gunnison River and its immediate environment of 12,900 acres into the National Wild and Scenic Rivers System will provide statutory protection to the gorge and effectively preserve the river's free-flowing condition and existing natural values. This protective status will preserve the natural, historic, and cultural values of the Gunnison River and its immediate environment.

National designation of the Gunnison River in the gorge will enhance its long-term productivity for human enjoyment and ecological and natural diversity. This will be ensured by the preservation of a free-flowing river and its outstanding scenic, geologic, recreational, watershed and wildlife values for future generations.

## RESPONSES



## COMMENTS

The American Wilderness Alliance actively supports and endorses this worthwhile proposal to designate a portion of the Gunnison River as a Wild River, and for inclusion of this segment into the National Wild and Scenic Rivers System.

Please add our comments to the public record to be included in the final environmental statement.

Respectfully submitted,

  
Ray R. Likens  
Wilderness Conservation  
Coordinator

RL:db

CC: Harris Sherman  
Senator Gary Hart  
Senator Bill Armstrong  
Congressman Tim Wirth  
Congressman Ray Kogovsek  
Congressman Jim Johnson  
Congressman Ken Kramer  
Congresswoman Pat Schroeder  
Governor Dick Lamm

## RESPONSES

## COMMENTS

DORIS ELLIS  
ROUTE 2  
HOTCHKISS, COLORADO 81419

May 28, 1979

National Park Service  
Rocky Mountain Regional Office  
Box 25287  
Denver, Colorado 80220

Gentlemen:

I have read the Draft Environmental Statement for the Gunnison Wild and Scenic River Study with great interest and have the following comments:

1. This is a good environmental statement. Your staff deserves commendation. The ES appears, to me, thorough, well documented, and clearly written. I attended several of the public hearings on the Study two or three years ago. The ES consolidates the facts presented at that time and adds much more useful information.
- 1 It does seem possible that the Gunnison area may contain even more natural resources than are listed. This spring, for instance, after the unusually wet winter, my husband and I believe we are seeing in the Gunnison gorge uncommon plants that we do not find most years.
2. The area chosen for possible designation as Wild and Scenic positively should be so protected. Our family has explored this area by jeep and on foot for the last 25 years, finding some new interest on every trip. It should be kept for the enjoyment and education of others, too.
- 2 3. The area covered by the ES has a great deal of local historical significance but much of its history is too randomly documented to be found in ordinary research. The Ute Trail, for instance, figures colorfully in the memories of many of our old timers. I believe that, with a long term plan for the preservation of the area by the Park Service, historical societies in Delta, Hotchkiss/Crawford, and Paonia would welcome an opportunity to help mark the trail and document its history--as has been done here with the Escalante Trail.

With increasing coal and other development, residents of Delta County inevitably are going to lose many of our fine natural areas. I urge that the Gunnison River gorge not be one of those lost.

Sincerely,  
  
Doris Ellis

## RESPONSES

- 1 If you do locate any such uncommon plants we suggest you forward information on their location to the Montrose office of the BLM for evaluation.
- 2 Such local involvement will be an important part of the management planning for the river area, if it is designated.

## COMMENTS

Box 251  
Paeonia, Colorado 81428  
May 18, 1979

National Park Service  
Rocky Mountain Regional Office  
P.O. Box 25237  
Denver, Co. 80220

Dear Sirs:

I would like to congratulate you on the Draft Environmental Statement for the Gunnison Wild and Scenic River Study. I believe you have done a fine job documenting the basis for your recommendations. The portion of the Gunnison Gorge below the Black Canyon National Monument is a natural extension of the Monument, and its scenic and environmental qualities certainly merit protection under the Wild River Act.

- 1 I can only suggest a few improvements which might be made in the ES. The study indicates that the most recent siting of peregrine falcons in the river study area was in 1974, but local people who fish or hike in the area have glimpsed them during the last two summers. I must say that I myself have not had that good fortune during my expeditions, however.
- 2 As an anthropologist, I am concerned that the historic and archeological sites identified in the area have not been listed in the National Register of Historic Places. Upon inquiry, I have discovered that the reason for this omission is that neither the North Fork Historical Society nor the Delta Historical Society considers the area to fall under its jurisdiction. I hope to remedy this situation, and see that qualified sites are appropriately designated.  
  
I concur with your recommendation that the gorge, <sup>be</sup> designated as a wild river in order to provide greater protection for it against development pressures. Adverse impacts of the designation would be minimal, as you indicate: "The amount of potential activity within the canyon itself is limited by the natural inaccessibility of the area and, therefore, is expected to be compatible with the carrying capacity of the resources. (III-3). Water development projects proposed for the area, on the other hand, would produce vast detrimental impacts, and should and could be located elsewhere.
- 3 Perhaps there is an important fact relating to access to the gorge of which you are not aware. Most North Fork residents who enter the area do so by crossing, with or without permission, private land (especially the Red Canyon Ranch). In order to avoid future conflicts the Park Service should consider providing access for the public from this side of the river.

Sincerely yours,

*Linda Lindsey*  
Linda Lindsey

## RESPONSES

- 1 This correction has been made. See Comment #2 from the Colorado Division of Wildlife.
- 2 Copies of reports for cultural resource inventories have been forwarded to the State Historic Preservation Officer.
- 3 The BLM has recognized this access need in formulating management strategies for the Gorge and river corridor. This situation will be addressed in final management planning.

## COMMENTS



Regional Director  
National Park Service  
655 Parfet Street  
Box 25287  
Denver, CO 80225

Dear Regional Director,

The Aspen Wilderness Workshop strongly supports the National Park Service and the Colorado Department of Natural Resources in the proposal for national wild river status for 26 miles of the Gunnison River.

One of the outstanding features of the Gunnison River is the Black Canyon. The Black Canyon is beautifully majestic and magnificent and contains the highest cliff in Colorado, the Painted Wall. The Black Canyon of the Gunnison River also provides habitat for two endangered species, the peregrine falcon and river otter. It also is the home of many threatened species such as bighorn sheep, golden eagles, bald eagles, prairie falcons, red-tailed hawks and American Kestrels. The Black Canyon serves as critical winter range for mule deer and elk.

The Gunnison river also provides many recreational opportunities such as hiking, fishing, whitewater floating.

Unless this river receives protective wild river status it is certain to be developed with resulting loss for wildlife habitat, trout fishing, recreational opportunities. Several proposed water projects would flood and destroy this wild river. Colorado has not yet protected one wild river in the National Wild and Scenic Rivers system. Lets protect the Gunnison before its too late.

Please include these comments in the record of the environmental statement on this matter.

Sincerely,

Susan Light - Coordinator  
Aspen Wilderness Workshop  
Box 9025  
Aspen, CO  
81611

cc/ Sen. Armstrong  
Sen. Hart  
Rep. Johnson  
Rep. Koppauec  
Rep. Kramer  
Rep. Wirth

## RESPONSES

## COMMENTS

May 1, 1979

Mr. Glen Bean, Regional Director  
Rocky Mountain Regional Office  
National Park Service  
655 Parfet Street, P. O. Box 25287  
Denver, Colorado 80225

Dear Mr. Bean:

I support the proposal to establish 26 miles of the Gunnison as a Wild River.

Dams are being built at an alarming rate in the state of Colorado. One can only wonder about how much forethought and planning have gone into their construction.

Since not a single mile of natural river in Colorado has received wild and scenic river status to date, I feel we should look into this program as a means of protecting portions of our rivers from dams and other forms of development before they are lost forever.

I ask that my comments be included in the record of the environmental statement on this matter.

Very truly yours,

*Virginia Fee*

Virginia Fee  
576 Plainview Court  
Grand Junction, CO 81501

cc: Senator Gary Hart  
Representative James P. Johnson

## RESPONSES

COMMENTS

RESPONSES

Box 115A Rt. 1  
Parrish, Co 81428  
Aug 14, 1979

Regional Director  
National Park Service  
655 Parfet Street  
Box 25287  
Denver, Co 80225

Dear Sir:

I live on the North Fork of the Gunnison River and have followed enthusiastically the work to make the Gunnison a designated Wild River. I support the proposal to establish 26 miles of the Gunnison as a Wild River. Please include this letter in the record of the environmental statement on this matter.

Sincerely,

Susan Ware

## COMMENTS

## RESPONSES



### *The Colorado Mountain Club*

GROUPS: ASPEN • BOULDER • DENVER • DENVER JUNIOR • DENVER WILDERNESS KIDS • EL PASO  
ENOS MILLS • FORT COLLINS • LONGS PEAK • PIKE'S PEAK • SAN JUAN • WESTERN SLOPE

TELEPHONE  
922-8315

2530 WEST ALAMEDA  
DENVER, COLORADO 80219

OFFICE HOURS MONDAY THRU FRIDAY 9 A.M. TO 5 P.M. AND MONDAY, TUESDAY AND THURSDAY EVENINGS 7 TO 9 P.M.

Regional Director, National Park Service  
655 Parfet Street  
Post Office Box 75287  
Denver, Colorado 80225

May 25, 1979

Dear Sir:

The Colorado Mountain Club (CMC) requests that these comments be incorporated into the official record of the EIS on the Wild River Proposal for the Gunnison River in Colorado.

The Colorado Mountain Club strongly supports wild river status for the entire 26.2 miles of the Gunnison River in central Colorado as proposed by the National Park Service and the Colorado Department of Natural Resources. The upper portion of the river is basically protected because it is in the Black Canyon National Monument. Our great concern is the protection of the 13.5 miles of river immediately below the National Monument border.

The consequences for not protecting the lower section of the river in the proposal could be disturbing and result in irreversible damage to the natural beauty and attraction of the area. In addition to the three dams already in existence above the National Monument, three more dams and reservoirs are planned to be constructed at this time. It is our opinion that the development of the river has reached or even exceeded its capacity, and we therefore oppose any more development of any kind in the river canyon area. The best method to achieve this and to protect the beauty of the river canyon is through the granting of wild river status.

Many of our members have had the privilege of hiking into the lower canyon area from below. It is one of the true paradises of Colorado. The inner canyon is awesome. Gigantic walls rise several hundred feet immediately from the river's edge. Side canyons have waterfalls plummeting into crystal clear pools. To develop this part of the river is to make a mockery of what the Creator has given us. There is no other place like this in the world, and no stretch of river deserves wild river status more than this one.

Since Colorado amazingly does not have one mile of river designated as "Wild River" status, the CMC believes that the Gunnison is a must for such designation. We also wish to praise the National Park Service and the Colorado Department of Natural Resources for coming up with such an excellent proposal.

Sincerely yours,

*Fred Ruckhaus*

FRED RUCKHAUS  
President

JR:mlp



COMMENTS

May 20, 1979

Dear Regional Director,

I am writing you to urge your support for the proposal to make 26 miles of the Gunnison R. into a "Wild River." I would like my support to be included in the record of the environmental statement on this matter.

This 26 miles section of the Gunnison should be established as Wild River.

Sincerely,  
Janet S. Oliver  
Telluride, CO

Box 1123  
Telluride, CO  
97425

RESPONSES

## COMMENTS



Sierra Club

Rocky Mountain Chapter

...TO EXPLORE, ENJOY AND PRESERVE THE NATION'S  
FORESTS, WATERS, WILDLIFE AND WILDFANESS...

## RESPONSES

May 30, 1979

Regional Director  
National Park Service  
655 Parfet Street  
P.O. Box 25287  
Denver, Colorado 80225

Dear Sir:

The Rocky Mountain Chapter of the Sierra Club, representing over 2800 members in Colorado, fully supports the National Park Service recommendation for designating a portion of the Gunnison River as "wild". The scenic, geologic, wildlife and recreation values of the area studied are outstanding and deserve that protection available as part of the National Wild and Scenic River System.

The Sierra Club supports Wild River status for the full 26.2 mile segment, including portions within and downstream of Black Canyon of the Gunnison National Monument. The natural values outweigh any benefits possibly available from proposed water development projects in the lower portion of the area. We urge that your final recommendation to Congress be that Wild River status be granted that portion of the Gunnison River.

Respectfully,

Connally E. Mears  
Wilderness Coordinator,  
Rocky Mountain Chapter  
of the Sierra Club

## COMMENTS

## RESPONSES

810 South Eleventh Street  
Montrose, Colorado 81401  
May 31, 1979

Regional Director  
National Park Service  
P. O. Box 25287  
Denver, Colorado 80225

Re: Gunnison River

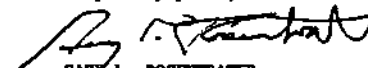
Dear Sir:

As a resident near the Black Canyon of the Gunnison River, I wish to express my support for designation as wild river status for twenty-six miles of the river. The twenty-six mile proposal includes over twelve miles which is in the Gunnison National Monument, and this river clearly complies with the requirements for designation as a wild river. Moreover, the additional thirteen or so miles below the monument also fits the definition of a wild river.

The important Curecanti Project has established three dams across the river, and it seems only reasonable that that portion of the river beginning at the Black Canyon of the Gunnison National Monument and extending just slightly below the confluence with the Smith Fork be determined as a wild river and given the protection allowed by law.

I would appreciate having my comments included in the record of the Environmental Statement on the question of the Gunnison River.

Very truly yours,



GARY L. ROSENTRATER

GLR/m

## COMMENTS

## RESPONSES

Challenge  
Discovery

International Wilderness Center  
Box 229  
Crested Butte, Colorado 81224  
303-349-5432

Regional Director, National Park Service  
Po Box 25287,  
Denver, Co 80225

Dear Sir,

I fully support your proposal to declare the 26 miles of the Gunnison River as Wild and Scenic.

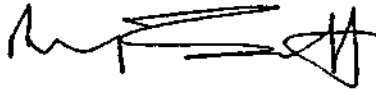
Over the past 10 years I have used this river and the adjoining country for conducting wilderness education programs for students from throughout the country.

The section of river in question has outstanding scenic qualities that would be irrevocably lost should the proposed be constructed. The educational value of this now unflooded region is superb. The geologic history from the pre cambrian to the cretaceous provides excellent field studies opportunities. All this would be lost if a dam were constructed. The recreation value of this area deserved to be retained for all the American people.

It is imperative that we act now to preserve some of our last free and flowing rivers, and I urge you to be decisive in declaring the section of the Gunnison River from the Black Canyon of the Gunnison to the Smith Fork, as "Wild and Scenic River"

Yours Sincerely

Roy Smith



Director, Challenge Discovery

## COMMENTS

June 1, 1979

Bobbie L. Ruth  
22 East 11th Avenue  
Denver, Colorado 80203

Regional Director  
National Park Service  
635 Parfet Street  
P. O. Box 25287  
Denver, Colorado 80225

Dear Sir:

Please take note that I strongly support any and all recommendations to protect the Gannison River from the Black Canyon within the National Monument to the confluence of the Smith Fork and to have it become designated as a wild river.

It is important to protect the 36 miles of fine trout fishery which would also provide preservation for the many birds of prey which live in the canyon and surrounding area.

The draft statement prepared by your agency and the State of Colorado was well done. Please include my letter in the record hearing. Thank you.

Cordially,



Bobbie L. Ruth

## RESPONSES

## COMMENTS

## RESPONSES

Jerry Mallett  
8550 E. Davies Pl.  
Englewood, CO  
80110

June 1, 1979

Regional Director  
National Park Service  
655 Parfet St.  
PO Box 25287  
Denver, CO 80225

Dear Sir:

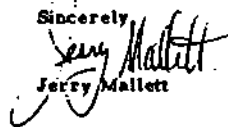
I has come to my attention that the Gunnison River from the Black Canyon within the National Monument to the confluence of the Smith Fork is being considered for wild river designation.

I am familiar with this section of the river and strongly support recommendations to protect this 26 miles of outstanding trout fishery in the Wild and Scenic River System. The canyon and surrounding area also serve as important winter range for varies big game and year round habitat for many birds of prey.

As this river was once one of the nations finest trout streama, it seems timely to protect the few miles that still remain free flowing.

The draft statement prepared by your agency and the State of Colorado was very well done and you should be complimented. Please include this letter in the record hearing.

Sincerely

  
Jerry Mallett

## COMMENTS

## RESPONSES

2640 Kohler Drive  
Boulder, Colorado 80303

June 13, 1979

Mr. Glen T. Bean  
Regional Director  
National Park Service  
655 Parfet Street  
P.O. Box 25287  
Denver, Colorado 80225

Dear Mr. Bean;

I strongly support the proposal of the National Park Service and the Colorado Department of Natural Resources to recommend 26.2 miles of the Gunnison River for wild and scenic status.

The proposal recognizes the outstanding geologic, scenic, wildlife, and recreational values of this magnificent river. Every effort should be made to see that this proposal gets the most favorable attention of Congress.

The quality fish and wildlife habitats of the natural stream must be protected, and I applaud the Park Service's proper role in preserving the diversity of life here.

There are several developments that threaten the small stretches of river above and below the Black Canyon of the Gunnison National Monument. It is my firm belief that such development in this area is not in the best interests of our national heritage. The choice to protect these few miles is clearly mandated by the current absence of even one single mile of any river in Colorado being included in the National Wild and Scenic Rivers System.

I ask that this statement of support be considered in making your final recommendation to Congress and that it be included in the official records on the issue.

Thank you.

Sincerely,

  
John Roberts

cc's: Representative Tim Wirth  
Senator Gary Hart  
Senator William Armstrong

## COMMENTS

Regional Director  
National Parks Service  
655 Parfet St.  
P.O. Box 26287  
Denver, Co. 80225

P.O. Box 34  
Crested Butte, Co.  
81224

## RESPONSES

Dear Sir,

I am writing in support of the proposal to establish twenty-six miles of the spectacular Gunnison River as a Wild River. I live in Crested Butte and have canoed the river a number of times, each time ~~appreciate~~ at the beauty of the land surrounding it. Please protect it from dams and the multitude of other threats that hang over it.

Please include these comments in the record of the environmental statement on the proposal.

Thank you for your attention.

Rachel Gaffney



## COMMENTS

4748 South Washington  
Englewood, Colorado 80110  
May 31, 1979

Regional Director  
National Park Service  
655 Prufet Street  
P. O. Box 25267  
Denver, Colorado 80225

Dear Sir:

Please add this letter to the comments being received on the Park Service's draft EIS and proposal to designate 26.2 miles of the Gunnison River in Colorado as a National Wild River.

I strongly support this proposal and urge its adoption in the final EIS.

To date, not a single mile of Colorado's famed rivers are protected by wild and scenic river status. It is time that some are soon, before no nationally significant free-flowing reach of river remains unharnessed in the state.

The Gunnison, to my own personal knowledge and experience, was once one of the world's finest trout streams. However, with most of it altered and developed, it lost this distinction. Fortunately, 26.2 miles of the Gunnison in the Black Canyon of the Gunnison National Monument and in the Gunnison Gorge below on Bureau of Land Management lands still flows free and qualifies for "wild" status.

This reach of river receives substantial fishing, floating and camping recreation use. It is in the public's best interest that it be preserved in its natural condition for these and other appropriate uses.

I am strongly opposed to the proposed water development projects on the Gunnison in the Gorge.

Sincerely,

  
Clifton R. Merritt

## RESPONSES

## COMMENTS

To whom it may concern,  
I support the proposal to establish 26  
miles of the Gunnison as a wild river. Please  
include my comments in the record of the  
environmental statement concerning this matter.  
This area of the Gunnison is a beautiful unspoiled  
stretch of scenery which I would prefer to enjoy  
unspoiled and exactly as it exists at present.

Sincerely,  
Dave Bevan  
1029 Jackson St  
Denver, Colo. 80206

## RESPONSES

## COMMENTS

May 11, 1979

Regional Director, National Park Service  
655 Parfet St.  
P.O. Box 25237  
Denver, Colo. 80225

Re: Wild River Status for the Gunnison River

Dear Sir:

The proposal by the National Park Service and the Colorado Dept. of Natural Resources for Wild River status for 26.2 miles of the Gunnison River is great!

The immensity and rugged character of the Black Canyon segment, the 13 mile stretch below, and the lands adjacent are certainly worthy of protection. It is the most spectacular and unique river area in Colorado, and has exceptional geologic, scenic, and recreational values, that compete with those of the Yellowstone and the Grand Canyons.

It is imperative to preserve the very critical big game winter range that the river area provides, as all game range is getting scarcer with development.

Wild River designation is a "must" to prevent further water projects from being developed, or the Gunnison will become only a series of man-made pools instead of a grand, free-flowing river, great for fishing, hunting, and recreation.

Ten years after the Wild and Scenic River Act was passed, Colorado still does not have one designated river! If any river meets the criteria, this 26 miles of the Gunnison should.

Please include this letter for Wild River status for the Gunnison in the record of public comment on the draft proposal.

Sincerely yours,



Mrs. Dorothy Gussner

cc. Colorado Dept. of Natural Resources, Harris Sherman

## RESPONSES

## COMMENTS

Regional Director  
National Park Service  
655 Parfet St.  
Denver, Colorado 80225

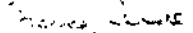
May 9, 1979

To the Regional Director:

The National Park Service proposal to designate 26 miles of the Gunnison River as a Wild River is a welcome corrective to Colorado's present lack of any protected wild river. I support and applaud this move.

I would like this letter entered in the hearing record.

Sincerely,

  
Bruce Berger  
Box 482  
Aspen, Colo 81611

## RESPONSES

## COMMENTS

SCOTT ELLIS

ROUTE 2

HOTCHKISS, COLORADO 81418

May 29, 1979

National Park Service  
Rocky Mountain Regional Office  
Box 25287  
Denver, Colorado 80220

Gentlemen:

I am writing in response to your Wild and Scenic Rivers Study, particularly the parts which involve the Gunnison River.

The Draft Environmental Statement contains much interesting and useful material, and I feel your writers and compilers are to be congratulated on their efforts.

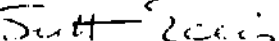
I suppose any comment from the public comes from the very personal and biased viewpoint of each individual. Each situation involving public lands is apt to be considered in the strongest and most opinionated way by those who are using or hope to exploit the area. I think the above criteria applies to me. I fish the Gunnison above its confluence with the North Fork and entertain a proprietary attachment for the river. I hope that some way can be found for its preservation.

The upper Gunnison, once a great fishing stream, is now Blue Mesa Lake--great for lake fishing, and certainly it has far greater people carrying capacity now than before. The Morrow Point Dam removed another section of river from river fishing, and the resulting lake is largely unavailable to sportmen. The Crystal has removed yet another section, though perhaps this has concerned fewer people because of the general inaccessibility of this part of the canyon.

The very real threat of loss of the final stretch of the Gunnison to a dam, via manipulation of the people of Delta by Colorado Ute, is a shadow which hangs over those of us who love the river as it is.

In conclusion, I approve of and give my support to a Wild River designation of the lower Gunnison River, and I hope this area can be developed as a place for wildlife and as a place where people can become better acquainted with the association of unaltered land, its vegetative cover and life that dwells therein.

Very truly yours,



Scott Ellis

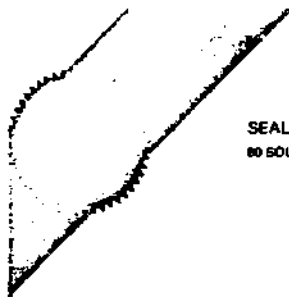
## RESPONSES

In addition to the letter from Mr. Ellis, the study team received 12 other letters from residents of the area near the river; these have not been reproduced here. All supported wild and scenic river designation on the basis of familiarity with the area and its outstanding values. In one case, a correspondent also supported designation of the ineligible reach from 1 mile below the Smith Fork to the confluence with the North Fork. These were received from:

Dan Roberts  
Jim Lambert  
Don N. Ridgeway, M.D.  
Conway Lands  
Carl Brater,  
Thomas Lawley  
Dick Montrose  
Chuck Worley  
Edwina Eastman  
Claire Moore  
Paul Murrill  
David Johnston and Rita A. Murphy

Eckert, Colorado  
Cedaredge, CO  
Paonia, CO  
Paonia, CO  
Paonia, CO  
Hotchkiss, CO  
Hotchkiss, CO  
Cedaredge, CO  
Hotchkiss, CO  
Paonia, CO  
Paonia, CO  
Paonia, CO

## COMMENTS



SEAL FURNITURE & SYSTEMS INC.  
80 SOUTH SANTA FE DRIVE DENVER, COLORADO 80223 TELEPHONE (303) 777-3071

June 6, 1979

Regional Director  
NATIONAL PARK SERVICE  
655 Parfet Street  
Box 25287  
Denver CO 80225

Dear Sir:

I would like to support your proposal for Wild and Scenic River Status for the Gunnison River in Colorado.

I have known the Gunnison since the 50's, before the dams were placed on it, and have watched with great sadness the destruction of one of the West's finest trout streams. Your proposal at least would protect one last stretch of that river, and it is richly deserving of that protection.

Thank you for your enlightened proposal; I am happy to support it.

Sincerely,

R. P. Van Gytenbeek  
Vice President  
Marketing

RPV/ps

CC: The Honorable Patricia Schroeder  
The Honorable William L. Armstrong  
The Honorable Gary Hart  
Mr. Harris Sherman  
National Director, Trout Unlimited  
American League of Anglers

## RESPONSES

In addition to the letter from Mr. Van Gytenbeek, 14 of comparable letters and postcards were received from people not living in the immediate area of the Gunnison River; these have not been reproduced here. The other 14 letters and cards also supported designation. These were received from:

Tudor Jr. and Pamela Marks	Colorado Springs, CO
Virginia Steele	Denver, CO
Lynn Grace	Colorado Springs, CO
William M. Bunau	Denver, CO
H. Thomas McGrath	Denver, CO
Meri Droste	Taos Ski Valley, NM
Gary Phillips	Winthrop, WA
Randall Copeland	Denver, CO
Clay Bridgeford	(no city of origin given) CO
Ron Karron, on behalf of the United Sportsman's Council of Colorado	Denver, CO
Todd M. Bacon, for the Public Lands Institute	Denver, CO
Morrrough O'Brea	Boulder, CO
Terry Hershey	Houston, TX
J. Mahlon Ozmun, for the Colorado Council of Trout Unlimited	Arvada, CO

## X. APPENDIXES

## APPENDIX A

(Letter from Office of Secretary of the Interior Offering Views and Comments on Application for a Preliminary Permit for Smith Fork Project, Delta and Montrose Counties, Colorado)





# United States Department of the Interior

OFFICE OF THE SECRETARY  
WASHINGTON, D.C. 20240

PEP ER-77/559

OCT 4 1977

Honorable Kenneth F. Plumb  
Secretary  
Federal Power Commission  
Washington, D.C. 20426

Dear Mr. Plumb:

Thank you for the letter of June 2, 1977, requesting our views and comments on the Application for Preliminary Permit for Smith Fork Project (FPC No. 2792), Delta and Montrose Counties, Colorado. Our review indicates that the proposed project lies within the segment of the Gunnison River that is being studied for possible inclusion into the Wild and Scenic Rivers System. In addition, the proposed project lies within the Gunnison Gorge Recreation Lands, established and dedicated in 1972.

## General Comments

### Background and Discussion

Since the project lies entirely within the recommended wild river segment, the project would likely have a direct and adverse effect on the values for which the river might be designated. It is the Department's opinion that even the study of this project may jeopardize the area's unique values. It is difficult to specifically assess how the study might impact these natural resource values because the application document is vague about the work intended under the preliminary permit. Exhibit D of the document states that sub-surface explorations and materials testing are proposed, but it does not state where or how these would be done.

Should the river and its environs be incorporated into the wild and scenic rivers system then the proposed project would be prohibited by the Act. It does not seem logical or reasonable that we should support the study of a project that could be prohibited by the Wild and Scenic River Act and most importantly, a study which could alter the values for which the river might be designated, without the opportunity to review and approve the study work plan.

When an applicant seeks a preliminary permit from the Commission to investigate the power potential of a site on or directly affecting a river designated by Congress for potential inclusion in the national wild and scenic rivers system, separate responsibilities of the Commission and the Department of the Interior must be reconciled. The Commission under its regulations has established procedures by which a preliminary permit may be issued which grants the applicant a preference to a site and provides for the conduct of investigatory work. Under § 7(b) of the Wild and Scenic Rivers Act, 16 U.S.C. 1271, 1278(b) (1970), however, the Secretary of the Interior is directed to determine whether investigatory work "would have a direct and adverse effect on values for which such river might be designated" for inclusion in the system. This decision is a condition precedent to the issuance of a preliminary permit by the Commission. As a matter vested within the exclusive discretion of the Department of the Interior by the Congress it is not subject to adjudication before the Commission.

Accordingly, before receiving a preliminary permit from the Commission, an applicant must present to the Department of the Interior a detailed description of the work to be undertaken in the investigation -- the number, location and type of roads; drill sites; access points; the effect of the plan on the ecology of the area; and other relevant information. This Department must then determine whether or not the proposed activities will have a direct and adverse effect on the river. If we conclude in the negative, the Commission may proceed with the issuance of the permit. If we conclude otherwise, the Commission does not have jurisdiction to grant the permit, and the applicant must revise his work plan for the area or abandon the investigation until the river is determined not eligible for inclusion in the system under the provisions of § 7(b)(ii) of the Act.

This process should be followed with regard to all investigations which may have a direct and adverse effect on any river area designated for study in § 5(a) of the Act. To accomplish this we suggest that the Commission may wish to amend the proposed memorandum of agreement between the Commission and this Department to expressly reflect this requirement. Alternatively, the Commission's regulations could be amended to provide in all cases, regardless of the land ownership patterns, that when an applicant seeks to undertake an investigation that may have an adverse effect on a designated study river, the permit issuance shall be conditioned upon the Secretary of the Interior having reviewed and approved

the work proposed and having determined that the work will not cause direct and adverse impacts on the river and its environs. In any event, we urge your immediate adoption of an interim procedure in order that applicants may be timely advised on the scope and nature of the presentation which must be made to this Department prior to Commission action.

Because this matter goes to the basic jurisdiction of the Commission, it must be resolved expeditiously. Otherwise, the issue could become the subject of litigation.

Even if the Wild and Scenic River Study did not result in a designation of this segment of the Gunnison, our Bureau of Land Management has two additional obligations under the Federal Land Policy and Management Act of 1976. First, it would have to review the Gunnison Gorge Recreation Lands withdrawal for continuation of that land status. Second, BLM would have to review the same area as a potential wilderness area if the recreation withdrawal were to be terminated, because it is a roadless area of more than 5,000 acres.

#### Recommendation

For the reasons stated above, we insist that a preliminary permit not be issued for the project in question until such time as the applicant has come forth with details of the investigatory work and a request for a § 7(b) determination from the Secretary of the Interior. We further require that all potential applicants for preliminary permits on § 5(a) designated river areas be placed on notice by the Commission as to the requirements of § 7(b) of the Wild and Scenic Rivers Act, as discussed herein.

#### Specific Comments

In the event this proposal ever proceeds, the following suggestions and comments are offered for your consideration.

#### Reclamation Activities

We suggest that the name of the proposed project be changed. An active Bureau of Reclamation project under the title of the Smith Fork Project in the same general area is already listed in the catalogue of Geographic Names maintained by the U.S. Geological Survey.

### Land Management

The status map should be corrected because the private land has been acquired through exchange by our Bureau of Land Management.

### Geology and Water Resources

The proposed dam and reservoir apparently will be located on Dakota Sandstone. Thus, the preliminary permit application should be followed by a study of potential seepage losses via both intergranular permeability and joints or fractures. Effects of the proposed project on the quantity and quality of ground water and on the hydrology and hydraulics of affected aquifer(s) should be examined, as well as those of ground water on the proposed structure and impoundment.

Sufficient data should also be obtained on surface water resources to provide a basis for consideration of potential adverse effects on water quality and streamflow characteristics in the project area.

### Mineral Resources

Studies should include an examination of the reservoir site to determine the extent of any mineral resources that might be lost, the effect of increased water supply and power on the coal and uranium industries in the region, and sources of aggregate for dam construction. Any effects upon existing transportation networks also should be examined.

A brief review of available information on the area did not indicate any major conflicts with mineral resources or industries; however, our Bureau of Mines would like the opportunity to conduct a mineral examination of the reservoir site as was done for the Bureau of Reclamation Curecanti Unit reservoirs upstream on the Gunnison.

### Cultural Resources

Any future environmental analysis should address what the effect of the proposed power plant will be upon Black Canyon of the Gunnison National Monument. The proposed developments are extremely close to this area administered by our National Park Service. The National Park Service will wish to see an assessment of what the effect upon parklands will be, as well as a determination of what would be the optimum distance needed for all project related features to ensure minimal impact upon them.

The environmental assessment should also state the steps that will be taken to assure adequate consideration for cultural resources. We suggest that they include the following:

1. There is a need to advise the State Historic Preservation Officer concerning the project in order to determine if there are properties eligible for nomination to the National Register of Historic Places.
2. Consultation of the most current listing of the National Register of Historic Places and all monthly supplements should be documented to ensure there are no such properties listed within the project development area.
3. When new areas are to be disturbed, the terrain affected by the project should be carefully surveyed for the presence of unrecorded archeological remains.

If previously unknown cultural resources are encountered during construction, work should be stopped and a qualified archeologist consulted. The salvage of archeological remains from a construction area is considered at best to be a last resort after all possible mitigative action has been taken.

If historic or cultural sites of National, State, or local significance will be affected by federally sponsored improvement project, a determination must be made that there is no feasible and prudent alternative to the use of such land, and such a program includes all possible planning to minimize harm to such cultural resources.

The identification of any cultural resources of significance requires compliance with Section 106 of the National Historic Preservation Act of 1966, Executive Order 11593, and the Advisory Council on Historic Preservation "Procedures for the Protection of Historic and Cultural Properties" (36 CFR, Part 800). In the event archeological resource sites will be affected, a helpful aid in developing appropriate compliance procedures will be proposed guidelines for "Research of Scientific, Prehistoric, Historic and Archeological Data: Methods, Standards, and Reporting Requirements" (36 CFR, Part 66).

#### Fish and Wildlife Resources

The following comments are offered in accordance with the Fish and Wildlife Coordination Act (48 Stat. 401, as amended: 16 U.S.C. 661 et. seq.).

The Smith Fork Project as proposed in the preliminary permit application has the potential for causing serious adverse environmental impact to the fish and wildlife resources of the Black Canyon area of the Gunnison River. The Wild and Scenic Rivers Act (P.L. 90-542, as amended) designated the Gunnison River from the upstream (southern) boundary of the Black Canyon of the Gunnison National Mounment to its confluence with the North Fork for potential addition to the National Wild and Scenic Rivers System. The Fish and Wildlife Service is a member of a study team which is examining this river segment to determine its suitability for inclusion in the national system.

It was the findings of this team that a 26-mile segment extending from the southern boundary of the mounment to approximately one mile below the Smith Fork met the criteria of the Act for a wild river and it should be recommended for designation as such because of its outstandingly remarkable scenic, recreational, geological and fish and wildlife values.

The fish and wildlife values of the Black Canyon area are indeed remarkable and diverse. These values are enhanced by limited access and the undisturbed character of the canyon. Prior to the Colorado River Storage Project's Curecanti Unit, the Gunnison River represented one of the truly great trout rivers of North America. Good quality trout habitat still remains and rainbow, cutthroat, and brown trout are common. Limited accessibility in the canyon coupled with a quality fishery provides a unique and satisfying angling experience.

Historically, the lower Gunnison River below Delta, Colorado supported viable populations of Colorado River squawfish and razorback suckers. Today the Colorado squawfish is an endangered species and the razorback sucker is proposed for listing as a threatened species in accordance with the Endangered Species Act of 1973. The last twelve miles of the Gunnison River from Whitewater to Grand Junction is proposed cirtical habitat for the Colorado squawfish and should therefore be protected from adverse modification in accordance with Section 7 of the Act. The study will need to address possible downstream impacts of the project on critical habitat.

The Black Canyon area of the Gunnison River also provides high quality wildlife habitat. The area serves as critical winter range for deer and elk and is a very important raptor area. Golden eagles, bald eagles, red-tailed hawks, prairie falcons, turkey vultures, and American kestrels are residents of the area. The canyon is a historic nesting area for the

endangered American peregrine falcon. The last known nesting in the canyon by peregrines was in 1973 but sightings have been recorded through 1976. The Canyon is ideally suited habitat for the peregrine falcon and as such is a high priority area for reintroduction of the birds. This is an important part of the recovery plan for the species. The river otter, an endangered species as listed by the State of Colorado, also inhabits the Gunnison River in the Black Canyon area.

Sincerely,



Larry E. Meierotto

Deputy Assistant SECRETARY

## APPENDIX B

(Order from the Federal Energy Regulatory Commission Issuing a Preliminary Permit to City of Delta, Colorado for Proposed Smith Fork Project)



UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

PRELIMINARY PERMIT;  
WILD AND SCENIC  
RIVERS ACT

Before Commissioners: Charles B. Curtis, Chairman;  
Don S. Smith, and George R. Hall.

City of Delta, Colorado

)

Project No. 2792

ORDER ISSUING PRELIMINARY PERMIT

(Issued August 1, 1978)

On February 22, 1977, the City of Delta, Colorado (Applicant) 1/ filed an application for preliminary permit for the proposed Smith Fork Project No. 2792, to be located on the Gunnison River in Delta and Montrose Counties, Colorado. The proposed project falls within our authority because it would occupy land of the United States under the supervision of the Bureau of Land Management, Department of the Interior. 2/

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1/ The City of Delta, Colorado, is a municipality as defined by Section 3(7) of the Federal Power Act, 16 U.S.C. §797(7).

2/ On October 1, 1977, pursuant to the provisions of the Department of Energy Organization Act (DOE Act), Public Law 95-91, 91 Stat. 565 (August 4, 1977) and Executive Order No. 12009, 42 Fed. Reg. 46267 (September 15, 1977), the Federal Power Commission (FPC) ceased to exist and its functions and regulatory responsibilities were transferred to the Secretary and the Federal Energy Regulatory Commission (FERC) which, as an independent commission within the Department of Energy, was activated on October 1, 1977.

The "savings provisions" of Section 705(b) of the DOE Act provide that proceedings pending before the FPC on the date the DOE Act takes effect shall not be affected and that orders shall be issued in such proceedings as if the DOE Act had not been enacted. All such proceedings shall be continued and further actions shall be taken by the appropriate component of DOE now responsible for the function under the DOE Act and regulations promulgated thereunder. The functions which are the subject of these proceedings were specifically transferred to the FERC by Section 402(a)(1) or 402(a)(2) of the DOE Act.

Moreover, the joint regulation adopted on October 1, 1977, by the Secretary and the FERC entitled "Transfer of Proceedings to the Secretary of Energy and the FERC," 10 CFR \_\_\_\_\_, provided that this proceeding would be continued before the FERC. The FERC takes action in this proceeding in accordance with the above mentioned authorities. The term "Commission" in this Order refers to the Federal Power Commission when used in the context of an action or statement made before October 1, 1977; otherwise the reference is to the Federal Energy Regulatory Commission.

DC-A-11

DESCRIPTION OF THE PROPOSED PROJECT

As described in the application, the proposed project would consist of a dam, a reservoir, and a powerhouse--with total installed capacity of 35.5 megawatts--located on the Gunnison River approximately 13 air miles southeast of the City of Delta. 3/ The dam and powerhouse would be about 3.5 miles upstream from the confluence of the North Fork of the Gunnison and one mile upstream of Smith Fork. The reservoir would extend 10.5 miles upstream, to within 0.2 miles of the northern boundary of the Black Canyon of the Gunnison National Monument. It would have a normal maximum water surface elevation of 5,425 feet m.s.l. and a usable storage capacity of approximately 20,000 acre-feet.

PUBLIC NOTICE AND AGENCY COMMENTS

Public notice was given on May 25, 1977, with August 8, 1977, as the last day for filing protests or petition to intervene. On June 13, 1977, the Colorado Public Utilities Commission (CPUC) filed a notice of intervention, which made it an intervenor. 4/ CPUC expressed no objection to the issuance of the preliminary permit. On July 25, 1977, the Colorado-Ute Electric Association, Inc. (Colorado-Ute) filed a petition to intervene in the proceeding, which was granted by notice issued August 16, 1977. 5/

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3/ The dam would be a concrete arch structure about 275 feet high and would consist of an ungated, overflow spillway near the center of the crest, and outlet works with control and guard gates for emergency drawdown and stream releases when the powerplant is not in operation. The powerhouse would contain two generating units. The transformers would be located at the powerhouse, with a cable tunnel extending to a switchyard on the north abutment canyon rim.

4/ See 18 CFR 1.8(a)(1)(1977).

5/ Colorado-Ute stated that it owns a conditional water right for the proposed Tri-County Reservoir, to be located downstream of the proposed project, and claimed that the Tri-County Reservoir may be affected by the proposed project. Colorado-Ute also stated that the project would be located in the service area of one of its members, but offered no objection to the issuance of the preliminary permit.

By letters dated June 2, 1977, the Secretary of the Commission circulated the application and requested federal, state, and local agencies to comment on the application. The Colorado Department of Health and the Delta County Board of County Commisisoners responded, but offered no substantive comments on the application and did not object to the issuance of the preliminary permit. 6 / We turn now to a discussion of the substantive comments by major topic.

#### NAVIGATION

The Corps of Engineers (Corps) by letter filed August 4, 1977, reported that the proposed project would not conflict with any existing or proposed flood control, navigation or other programs within its jurisdiction. We are, however, including Article 11 in the permit requiring the Applicant to coordinate its studies with the Corps' District Engineer.

#### GEOLOGY, WATER RESOURCES, AND MINERAL RESOURCES

In a letter filed October 5, 1977, the Department of the Interior (Interior) reported that the project may be located on Dakota Sandstone. Interior recommended that the Applicant study the potential seepage losses due to both intergranular permeability and joints or fractures. Interior also recommended that the Applicant study the possible effects of the project on hydrology, hydraulics, ground-water, water quality, and mineral resources in the area. The Applicant did not respond to these comments. We are including Articles 1 and 7 in the permit to provide for the studies suggested by Interior.

#### HISTORICAL AND CULTURAL RESOURCES

Interior stated that the project would be close to the Black Canyon of the Gunnison National Monument. Interior recommended that an analysis be undertaken to assess any effects on the National Monument. Interior also recommended: (1) that the State Historic Preservation Officer be advised of the proposed project, to aid in determining whether there are properties in the area eligible for nomination to the National Register of Historic Places; (2) that the National Register of Historic Places and its monthly supplements be consulted to insure that no listed properties are within the project boundary; and (3) that areas that are to be disturbed be surveyed for the presence of unrecorded archeological remains.

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6 / The Department of Health did voice its objection to the issuance of a license for the project.

By letter filed June 28, 1977, the State Historical Society of Colorado recommended that a study be conducted prior to the filing of a license application to identify and consider all properties included in or eligible for inclusion in the National Register of Historic Places.

The Advisory Council on Historic Preservation (Advisory Council) in a letter filed August 26, 1977, recommended that a survey be conducted to determine if cultural properties are located in the area to be affected by the project. The Advisory Council also recommended that the Colorado State Historic Preservation Officer be consulted about properties in the project area that are included in or eligible for inclusion in the National Register of Historic Places. The Advisory Council also set forth the type of information on cultural resources that it believed should be contained in an environmental impact statement. 7/

We are including Article 7 in the permit which provides for investigations and consultation with respect to cultural and historical sites.

#### POTENTIAL WILD AND SCENIC RIVER STATUS

A number of agencies, including Interior, reported that the portion of the Gunnison River within the proposed project area is currently under study for inclusion in the National Wild and Scenic Rivers System. Citing subsection 7(b) of the Wild and Scenic Rivers Act, 8/ Interior questioned whether a preliminary permit could be issued before Congress had determined

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7/ By letter dated August 26, 1977, Staff informed the Advisory Council that an environmental impact statement is generally not prepared for preliminary permits. Staff stated that articles that provide for studies of historical and cultural resources are usually included in permits.

8/ 16 U.S.C. §1278(b). That subsection provides:

The Federal Power Commission shall not license the construction of any dam, water conduit, reservoir, powerhouse, transmission line, or other project works under the Federal Power Act, as amended, on or directly affecting any river [designated for potential addition to the National Wild and Scenic Rivers System] and no department or agency of the United States shall assist by loan, grant, license, or otherwise in the construction of any water resources project that would have a direct and adverse effect on the values for which such river might be designated, as determined by the Secretary responsible for its study or approval [until certain times have lapsed or determinations have been made by the Secretaries of Interior and Agriculture] . . . .

Project No. 2792

the status of the Gunnison River. Interior also maintained that, before we may issue a preliminary permit, the applicant must provide Interior with details of the studies it will conduct and obtain Interior's approval of the studies. We disagree with Interior's views on the effect of the Wild and Scenic Rivers Act.

The first clause of subsection 7(b) prohibits this Commission from issuing a license for the construction of a project on or directly affecting any river designated for potential addition to the Wild and Scenic Rivers System. Nothing in the Wild and Scenic Rivers Act or its legislative history, however, indicates that the term "license" includes anything other than a license issued pursuant to Section 4(e) of the Federal Power Act. 16 U.S.C. §797(e). The application under consideration here, of course, seeks only a preliminary permit under Section 4(f) of the Federal Power Act (the Act)--which does not authorize construction of the project. See 16 U.S.C. §§797(f), 798.

Nor does the second clause of subsection 7(b) of the Wild and Scenic Rivers Act buttress Interior's position. The legislative history of this subsection clearly shows that the second clause was directed, not toward this Commission, but towards other Federal agencies and departments. <sup>9/</sup> In any event, a preliminary permit does not "assist. . . in the construction" of a potential hydroelectric project. A person may file an application for a license for a project without a preliminary permit. Or a person may obtain a permit and never file an application for a license. Or, even if a permittee does file an application for a license to construct a project, the application may be denied. A preliminary permit merely allows the permittee to maintain priority of application for a license, while it gathers and prepares necessary supporting information. <sup>10/</sup>

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<sup>9/</sup> The relevant language of Section 7 tracks that in Section 7 of the House bill, H.R. 18260, 90th Cong., 2d Sess. (1968). The report on that bill distinguished the prohibition against FPC licensing of a project from the prohibition against "other Federal departments or agencies. . . making loans or grants for, and. . . licensing, water resource projects. . . ." See H.R. Rep. No. 1623, 90th Cong., 2d Sess. (1968), reprinted in 1968 U.S. Code Cong. & Admin. News 3801, 3811-12.

<sup>10/</sup> See Sections 4(f), 5, and 9 of the Federal Power Act, 16 U.S.C. §§797(f), 798, 802.

Nowhere else in the Wild and Scenic Rivers Act is there anything that shores up Interior's position. In fact--if issuing a preliminary permit amounts to an "activity" which "may affect" a designated study river not yet included in the National Wild and Scenic Rivers System--subsection 7(c) of that Act clearly recognizes that we may issue a preliminary permit for a project on such a river. That subsection states:

The Federal Power Commission and all other Federal agencies shall, promptly upon enactment of this [Act] inform the Secretary of the Interior and, where national forest lands are involved, the Secretary of Agriculture, of any proceedings, studies, or other activities within their jurisdiction, which are now in progress and which affect or may affect any of the rivers [designated for potential addition to the national wild and scenic rivers system]. They shall likewise inform him of any such proceedings, studies, or other activities which are hereafter commenced or resumed before they are commenced or resumed. [16 U.S.C. §1278(c).]

This subsection also refutes Interior's unsupported assertion that it must review and approve the studies to be conducted, before we may issue a preliminary permit. Subsection 7(c) contemplates only that this Commission inform the Secretary of the Interior of proceedings, studies, or other activities that may affect designated study rivers. It in no way requires that any proposed study or activity receive his approval before we act. 11/ For these reasons, we conclude that the Wild and Scenic Rivers Act neither prohibits issuance of this preliminary permit nor requires that any studies to be conducted in compliance with this permit be approved in advance by the Secretary of the Interior. 12/

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11/ The Secretary of the Interior has, of course, been informed of this proceeding and will be kept apprised of any studies or other activities which may affect the portion of the Gunnison River at issue here.

12/ Of course, the permittee is on notice that, if this river should be included within the National Wild and Scenic Rivers System, we will be unable to license the proposed project.

### FISH AND WILDLIFE

We are not unmindful, however, of Interior's and EPA's concerns over the potential impacts from aquatic and other studies, drilling operations, access roads, and other field work to be done in the vicinity of the proposed project during the term of this permit. Interior has expressed particular concern over the possible effects of the proposed project, and studies for it, on downstream habitat that Interior claims is critical to the survival of the endangered Colorado River squawfish and the razorback sucker.

To meet those concerns, we are including Article 12 in the permit. That article requires the permittee to consult and cooperate with various agencies, including Interior's Fish and Wildlife Service, in preparing a detailed plan for the aquatic studies and other field work it will conduct, including measures to protect any endangered species. The permittee must file that plan with us before commencing any field work that may cause disturbance to the land or water in the vicinity of the proposed project. In addition, Article 1 of the permit requires the Applicant to restore to original conditions any areas disturbed as a result of the field work, to the satisfaction of the Commission's authorized representative or the Federal agency administering affected Federal Lands.

### ENVIRONMENTAL IMPACT

The preliminary permit does not authorize the construction of any project works. The purpose of a preliminary permit is to maintain priority of application for license, while giving the Applicant time to conduct the investigations and secure the data necessary to determine the feasibility of the proposed project and to prepare an acceptable application for license. This permit does require the permittee to conduct certain studies, but under conditions which will assure that those studies cause no significant adverse environmental impact. For these reasons, the issuance of this preliminary permit for Project No. 2792 does not constitute a major Federal action significantly affecting the quality of the human environment.

The Commission orders:

(A) A preliminary permit is issued to the City of Delta, Colorado, for the Smith Fork Hydroelectric Project No. 2792, located on lands of the United States on the Gunnison River in Delta and Montrose Counties, Colorado, for a period of 36 months, effective the first day of the month in which this permit is issued. The permit is subject to the terms and conditions of the Act, which is incorporated by reference as part of this permit, and subject to the rules and regulations the Commission issues or prescribes under the provisions of the Act.

(B) This permit is also subject to the terms and conditions set forth in Form P-1 (revised October, 1975) 13/ entitled "Terms and Conditions of Preliminary Permit" (designated as Articles 1 through 6 and attached to this permit), and subject to the following special conditions set forth as additional articles:

Article 7. Permittee, in the interest of protecting and developing the natural resources and other environmental values of the project area, shall consult with the appropriate Federal, State, and local agencies in their fields of responsibility and expertise, shall conduct its project investigations in a manner which protects the environmental integrity of the area, and shall fully explore all feasible alternatives to the project, and alternative project designs, which would avoid damage or destruction of natural resources and other environmental values. These resources and values include, but are not limited to, forests, land management and treatment, fish, wildlife, recreation and public use, water and air quality

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13/ References there to the Federal Power Commission shall be deemed to be references to the Federal Energy Regulatory Commission.



(including water supply, ground water studies, waste treatment and disposal); public health and safety; archeology; historical and cultural sites; threatened or endangered flora and fauna; and scenic and aesthetic values. The Permittee shall initiate and conduct at its expense such studies as may be necessary to determine the impact of the construction and operation of the proposed project on these natural resources and values and any measures needed to protect and develop them or to provide for their mitigation or replacement, including alternative designs and operational measures, and shall utilize the results of such studies in the preparation of Exhibits H, R, S, V, and W to accompany any application for a license to construct and operate the project. In connection with studies pertaining to archeological and historic and cultural sites, the Permittee shall consult with the Colorado State Historic Preservation Officer and the Heritage Conservation and Recreation Service of the U.S. Department of the Interior.

Article 8. The Permittee shall submit in triplicate at the close of each three-month period from the effective date of this permit, to the Secretary, Federal Energy Regulatory Commission, with a copy to the FERC Regional Engineer Forth Worth, Texas, or to such other officer as the Commission may designate, accurate statements of the progress of all investigations, consultations, and studies accomplished during the permit period and of work contemplated under this permit for the ensuing period.

Article 9. The Permittee shall, for the purpose of assuring the cooperation required by the terms of the permit, designate a liaison officer to act for the Permittee in keeping appropriate federal, state, and local agencies specified in this permit currently informed about the progress of investigations throughout the term of the permit, and the liaison officer shall communicate with those agencies within 60 days from the date of issuance of this permit.

Article 10. Permittee, by the end of the first year of this permit, shall (1) have consulted with the U.S. Fish and Wildlife Service of the Department of the Interior, and the Colorado Department of Natural Resources, Division of Wildlife, and arranged for the preparation of a study of any effects which the proposed project would have on fish and wildlife resources, and of facilities or measures needed to conserve or develop these resources and (2) file with the Commission an outline of the proposed study, including an estimate of its cost, and letters from each of the above agencies indicating the extent of consultation. During the remaining two years of the permit, Permittee shall fund or otherwise provide for that study. A copy of the report on the study shall be filed as part of the Exhibit S of any subsequent application for license.

Article 11. Permittee shall coordinate the studies for the proposed project authorized by this permit with the Corps of Engineers, District Engineer, Sacramento, California.

Article 12. Before conducting any aquatic studies or other field activities which may cause disturbance to the land, water, or ecology in the vicinity of the proposed project site, the Permittee shall file with the Commission a detailed plan of work for those studies and activities. The plan shall be developed in consultation and cooperation with the U.S. Fish and Wildlife Service of the Department of the Interior, the Colorado Department of Natural Resources, and other appropriate state and local agencies concerned with the effects of such investigations within the area of the Gunnison River under consideration for designation as a Wild and Scenic River. The plan shall include, but need not be limited to: the number, location and type of roads; drill sites; access points; the effect of investigations on downstream aquatic life and on the ecology of the area; and measures to protect endangered or threatened fish species, particularly the Colorado River squawfish and razorback sucker, and their habitat from any studies or other field activities. The plan shall also include measures that the Permittee intends to use to restore disturbed areas to their natural state after completion of its investigations.

(C) This order shall become final 30 days from the date of its issuance unless application for rehearing shall be filed as provided in Section 313(a) of the Act, and failure to file such an application shall constitute acceptance of this preliminary permit. The acknowledgment of the acceptance of this preliminary permit shall be signed by the Permittee and returned to the Commission within 60 days from the date of issuance of this order.

By the Commission.  
( S E A L )

Kenneth F. Plumb,  
Secretary.

IN TESTIMONY of its acknowledgment of acceptance of  
all of the terms and conditions of this Order, City of Delta,  
Colroado, this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_,  
has caused its name to be signed hereto by

\_\_\_\_\_, its \_\_\_\_\_

Mayor, and its corporate seal to be affixed hereto and

attested by \_\_\_\_\_ its \_\_\_\_\_

Secretary, pursuant to a resolution of its Board of Directors  
duly adopted on the \_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_, a  
certified copy of the record of which is attached hereto.

By \_\_\_\_\_ Mayor

Attest:

\_\_\_\_\_  
Secretary

(Executed in quadruplicate)

As the nation's principal conservation agency, the Department of the Interior has basic responsibilities to protect and conserve our land and water, energy and minerals, fish and wildlife, parks and recreation areas, and to ensure the wise use of all these resources. The department also has major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.